



TOOLS OF INDUSTRY
J. H. WILLIAMS & CO.

DIVISION OF UNITED-GREENFIELD CORPORATION
BUFFALO 7, NEW YORK

**New Era Hardware & Supply Co.,
Inc.**

832 Ninth Ave.
New York 19, N. Y.

CATALOG No. 504

THE BROADEST LINE OF ITS KIND

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ALPHABETICAL INDEX

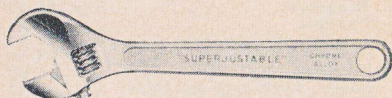
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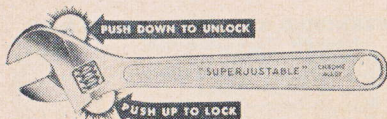
WILLIAMS' SUPERJUSTABLE® WRENCHES

Selected Alloy Steel

WITH PLAIN HANDLES



REGULAR — CHROME-PLATED



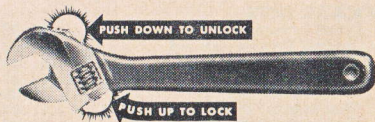
LOCK-A-JUST — CHROME-PLATED

Covered by U.S.A. Patent 2719449

WITH CEMENTEX HANDLES



REGULAR — CHROME-PLATED



LOCK-A-JUST — CHROME-PLATED

Covered by U.S.A. Patent 2719449

See Page 38 for Industrial Black Finish Adjustable Wrenches

The exclusive design of the square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point.

Just a flick of the thumb or finger locks or unlocks the adjustment instantly at any opening you select.

- Positive Lock
- No Obstructions
- Rapid Adjustment
- One Hand Operation
- Increased Safety

Drop-forged, heat-treated, chrome-plated over nickel, polished heads.

Cementex Black insulation has high dielectric strength and a low, non-supporting, flame test. This elastic, non-slipping insulation is securely bonded to the handle. It will not become loose when subjected to strain.

Breakdown tests by leading power companies indicate normal break at 14,000 to 28,000 volts. Approximately 40% withstand the 28,000 volt test. Cementex insulation has been known to take as high as 43,000 volts.

Drop-forged, heat-treated, chrome-plated over nickel, polished heads.

No.		Size Inch	Ca- pacity	Thickness Head	
Regular	Lock- A-Just			Tip of Jaws	Ex- treme
4	...	4	1/2	9/64	5/16
6	6L	6	3/4	7/32	3/8
8	8L	8	1-	17/64	1/2
10	10L	10	1- 1/8	23/64	19/32
12	12L	12	1- 5/16	15/32	23/32
15	15L	15	1- 3/4	19/32	31/32
18	...	18	2- 1/16	23/32	1- 3/16
24	...	24	2- 7/16	7/8	1- 3/8

No.		Size Inch	Ca- pacity	Thickness Head	
Regular	Lock- A-Just			Tip of Jaws	Ex- treme
6C	6LC	6	3/4	7/32	3/8
8C	8LC	8	1	17/64	1/2
10C	10LC	10	1-1/8	23/64	19/32
12C	12LC	12	1-5/16	15/32	23/32



WILLIAMS' OPEN-END SUPERRENCHES®

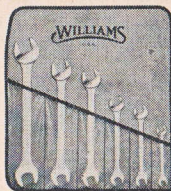
Selected Alloy Steel

Double Head—15° Angle



Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated over nickel, head faces polished.

Metric sizes available; see Page 11.



SET No.1005AR SET No.1005AB

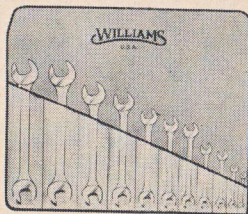
In Leatherette Roll In Cardboard Box

Set contains 6 Open-End Superrenches®, 1 each Nos. 1725, 1727, 1029C, 1731A, 1033C and 1036B with openings, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16 and 1-1/8".

SET No.1025BR SET No.1025BB

In Leatherette Roll In Cardboard Box

Set contains 6 Open-End Superrenches®, 1 each Nos. 1723, 1725B, 1729, 1029C, 1733 and 1034A with openings 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16".



SET No.1712AR SET No.1712AB

In Leatherette Roll In Cardboard Box

Set contains 11 Open-End Superrenches®, 1 each Nos. 1020, 1723, 1025, 1727, 1029, 1731, 1033A, 1735, 1037, 1039A and 1039C with openings, 1/4, 5/16, 3/8, 7/16, 1/2, 19/32, 9/16, 5/8, 11/16, 25/32, 3/4, 13/16, 7/8, 15/16, 1, 1-1/8, 1-1/16, 1-1/4, 1-5/16, 1-1/2, 1-3/8 and 1-7/16".

No.	Nominal Openings	Thickness Heads	Overall Length
1020	1/4 & 5/16	5/32	3-13/16
1720	5/16 & 1/2	3/16	4-1/4
1721	5/16 & 3/8	3/16	4-1/4
1021	5/16 & 13/32	13/64	4-1/2
1723	3/8 & 7/16	13/64	4-11/16
1023	13/32 & 1/2	7/32	4-7/8
1723A	3/8 & 1/2	7/32	4-7/8
1725	7/16 & 1/2	7/32	5-1/8
1725A	7/16 & 9/16	15/64	5-5/8
1725B	7/16 & 9/16	15/64	6-1/4
1025	1/2 & 19/32	1/4	6-1/4
1727	9/16 & 5/8	17/64	6-7/8
1027C	9/16 & 11/16	9/32	7-1/8
1027	19/32 & 11/16	9/32	7-1/2
1027B	5/8 & 11/16	9/32	7-1/2
1028	19/32 & 25/32	19/64	8-1/4
1028S	5/8 & 25/32	19/64	8-1/4
1729	5/8 & 3/4	19/64	8-1/4
1029B	11/16 & 3/4	5/16	9
1029	11/16 & 25/32	5/16	9
1029C	11/16 & 13/16	5/16	9
1030	11/16 & 7/8	21/64	9-3/8
1731	3/4 & 13/16	11/32	9-3/4
1731A	3/4 & 7/8	11/32	9-3/4
1031B	25/32 & 13/16	11/32	9-3/4
1031	25/32 & 7/8	11/32	9-3/4
1731B	13/16 & 7/8	11/32	9-3/4
1032B	13/16 & 15/16	3/8	10-1/2
1033A	7/8 & 15/16	3/8	10-1/2
1733	7/8 & 1	13/32	11-3/8
1033C	15/16 & 1	13/32	11-3/8
1034	7/8 & 1 1/16	13/32	11-3/8
1034A	15/16 & 1 1/16	13/32	11-3/8
1035	31/32 & 1 1/16	13/32	11-3/8
1735	1 & 1 1/8	7/16	12-1/4
1036B	1 1/16 & 1 1/8	7/16	12-1/4
1037	1 1/16 & 1 1/4	15/32	13-1/4
1737	1 1/8 & 1 1/4	15/32	13-1/4
1037A	1 1/8 & 1 5/16	15/32	13-1/4
1039B	1 1/4 & 1 5/16	1/2	14-3/8
1039	1 1/4 & 1 7/16	1/2	14-3/8
1039A	1 5/16 & 1 1/2	17/32	15-1/2
1039C	1 3/8 & 1 7/16	35/64	16-1/8
1040	1 1/4 & 1 5/8	9/16	16-5/8
1041	1 7/16 & 1 5/8	9/16	16-5/8
1041B	1 1/2 & 1 5/8	9/16	16-5/8

WILLIAMS' OPEN END-BOX SUPERRENCHES®

Selected Alloy Steel

15° Angle

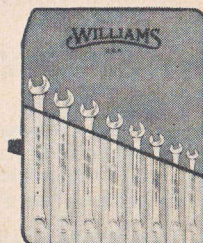


The new long, slender design of these Superrenches® offer exceptional balance and increase efficiency where clearance is limited.

In this new design, handles are longer and narrower—heads are slimmer. The thin, slim jaws of the open end have an opening angle of 15°.

Box end, with 12-point opening and thin walls, is offset from plane of handle; see illustration.

Drop-forged from tough Selected Alloy Steel, heat-treated and chrome-plated over nickel with faces of open end polished.



SET No.1170AR
In Leatherette Roll

SET No.1170AB
In Cardboard Box

Set contains 8 Open End-Box Superrenches®, 1 each Nos. 1161, 1162, 1163, 1164, 1165, 1166, 1167A and 1167 with openings, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16 and 7/8".

SET No.1171AR
In Leatherette Roll

SET No.1171AB
In Cardboard Box

Set contains 7 Open End-Box Superrenches®, 1 each Nos. 1162, 1163, 1165, 1166, 1167, 1171 and 1173 with openings, 1/2, 9/16 11/16, 3/4, 7/8, 1-1/16 and 1-1/4".

SET No.1172SR
In Leatherette Roll

SET No.1172SB
In Cardboard Box

Contains 18 Open End-Box Superrenches®, 1 each Nos. 1159 to 1173 inclusive with openings, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4, 25/32, 7/8, 13/16, 15/16, 1, 1-1/16, 1-1/8 and 1-1/4".

SET No.1173SR
In Leatherette Roll

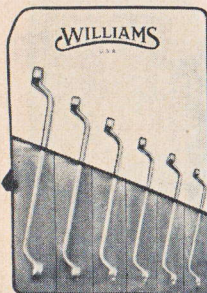
SET No.1173SB
In Cardboard Box

Set contains 7 Open End-Box Superrenches®, 1 each Nos. 1159, 1159A, 1160, 1161, 1162, 1163 and 1164 with openings, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16 and 5/8".

No.	Nominal Openings	Open End Thick.	Box End Diam.	Overall Length
1158	1/4 & 5/16	5/32	13/32	5
1159	5/16 & 11/32	3/16	33/64	5- 1/2
1159A	11/32 & 1/2	13/64	37/64	6
1160	3/8 & 7/16	13/64	37/64	6
1161	7/16 & 1/2	7/32	21/32	6- 5/8
1162	1/2 & 5/8	1/4	47/64	7- 3/16
1163	5/8 & 3/4	9/32	53/64	7-15/16
1163A	3/4 & 7/8	19/64	59/64	8- 3/4
1164	7/8 & 15/16	19/64	59/64	8- 3/4
1165	15/16 & 1	5/16	1- 1/64	9- 5/8
1166	3/4 & 7/8	11/32	1- 1/64	10- 5/8
1166A	7/8 & 15/16	23/64	1-11/64	11- 9/16
1167A	15/16 & 1	23/64	1-11/64	11- 9/16
1167	1 & 1-1/16	3/8	1- 1/4	12-11/16
1168	1-1/16 & 1-1/8	25/64	1-21/64	13- 7/8
1170	1 & 1-1/8	13/32	1-27/64	15- 1/8
1171	1-1/8 & 1-1/4	27/64	1- 1/2	16- 1/4
1172	1-1/4 & 1-1/2	7/16	1- 9/16	17- 7/16
1173	1-1/2 & 1-3/4	15/32	1-25/32	18-11/16
1174	1-3/4 & 1-7/8	1/2	1-27/32	20
1176A	1-7/8 & 1-7/4	9/16	2- 3/32	21- 5/16
1176	1-7/4 & 1-15/16	9/16	2- 3/32	21- 5/16
1178	1-15/16 & 1-7/8	9/16	2- 3/32	21- 5/16
1180	1-7/8 & 1-15/16	5/8	2- 5/16	22- 3/4
1182	1-15/16 & 1-7/8	5/8	2- 5/16	22- 3/4
1184	1-7/8 & 1-15/16	3/4	2- 7/8	26
1186	1-15/16 & 1-7/8	3/4	2- 7/8	26
1188	1-7/8 & 1-15/16	3/4	2- 7/8	26
1190	2 & 2-1/16	3/4	2- 7/8	26

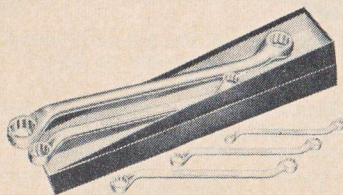
WILLIAMS' 12-POINT BOX SUPERRENCHES®

Selected Alloy Steel
Double Offset Pattern



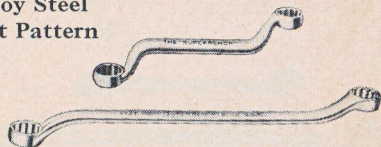
SET No. 8006AR SET No. 8006AB
In Leatherette Roll In Cardboard Box

Set contains 6 Double Offset Box Superrenches®, 1 each Nos. 8723, 8725B, 8727A, 8731, 8733, and 8034A with 12 point openings 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, and 1-1/16".



SET No. 8005BB
In
Cardboard Box

Set contains 5 Double Offset Box Superrenches®, 1 each Nos. 8725B, 8029B, 8033A, 8037 and 8041 with 12-point openings 1/2, 9/16, 11/16, 3/4, 7/8, 15/16, 1-1/16, 1-1/4, 1-7/16 and 1-5/8".



Drop-forged, heat-treated and chrome plated over nickel, heads polished. For Metric sizes see Page 11.

No.	Nominal Openings	Diam. Head		Overall Length
		Small	Large	

Long Double Offset

8021	5/16 & 7/16	13/32	33/64	5/8	7- 1/2
8723	3/8 & 7/16	13/32	37/64	21/32	7- 3/4
8023	13/32 & 1/2	13/32	21/32	47/64	8- 1/16
8725	7/16 & 1/2	13/32	21/32	47/64	8- 1/16
8725A	7/16 & 9/16	13/32	21/32	53/64	8- 3/8
8725B	1/2 & 9/16	13/32	47/64	53/64	8-11/16
8025	1/2 & 19/32	13/32	47/64	7/8	9- 1/16
8727	9/16 & 5/8	13/32	53/64	29/32	9- 3/8
8027	19/32 & 11/16	13/32	29/32	1	9- 3/4
8727A	5/8 & 11/16	13/32	29/32	1	9- 3/4
8729	5/8 & 3/4	13/32	29/32	1- 5/64	10- 1/8
8029B	11/16 & 3/4	13/32	1	1- 5/64	10- 1/2
8029	11/16 & 25/32	13/32	1	1- 1/8	10- 7/8
8729A	3/4 & 25/32	13/32	1- 5/64	1-11/64	11- 5/8
8030	11/16 & 7/8	13/32	1	1- 1/4	11- 1/4
8731	3/4 & 13/16	13/32	1- 5/64	1-11/64	11- 5/8
8731A	3/4 & 7/8	13/32	1- 5/64	1- 1/4	12
8031B	25/32 & 13/16	13/32	1- 1/8	1-11/64	12- 1/2
8031	25/32 & 7/8	13/32	1-11/64	1- 1/4	12- 7/8
8731B	13/16 & 7/8	13/32	1-11/64	1- 1/4	12- 7/8
8033A	7/8 & 15/16	13/32	1- 1/4	1-21/64	13- 3/8
8733	7/8 & 1	13/32	1- 1/4	1-13/32	13- 7/8
8033C	15/16 & 1	13/32	1-21/64	1-13/32	14- 3/8
8034	7/8 & 11/16	13/32	1- 1/4	1- 1/2	15
8034A	15/16 & 11/16	13/32	1-21/64	1- 1/2	15- 1/2
8735	1 & 1 1/8	13/32	1-13/32	1- 9/16	16
8735A	11/16 & 1 1/8	13/32	1- 1/2	1- 9/16	16- 5/8
8037	11/16 & 1 1/4	13/32	1- 1/2	1-25/32	17- 1/4
8037A	1 1/8 & 1 5/8	13/32	1- 9/16	1-27/32	18
8039B	1 1/4 & 1 5/8	13/32	1-25/32	1-27/32	18- 3/4
8039	1 1/4 & 1 7/8	13/32	1-25/32	2- 3/64	19- 1/2
8039A	1 5/8 & 1 1/2	13/32	1-27/32	2- 3/32	20- 1/2

For Heavy Service

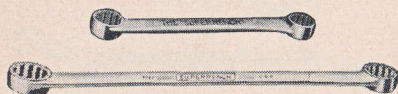
8040B	1 7/16 & 1 1/2	2-11/32	2-11/32	21
8041	1 3/8 & 1 5/8	2-11/32	2-19/32	23
8724B	1 1/2 & 1 11/16	2-11/32	2-19/32	23
8045	1 13/16 & 2	2-57/64	3- 9/64	25
8049	2 3/16 & 2 3/8	3-29/64	3-45/64	27
8053	2 1/8 & 2 3/4	3-29/64	4- 5/32	30

Short Double Offset

9723	3/8 & 7/16	19/32	21/32	4-1/2
9725	7/16 & 1/2	21/32	47/64	5
9725A	7/16 & 9/16	47/64	53/64	5-1/2
9725B	1/2 & 9/16	47/64	53/64	5-1/2
9025	1/2 & 19/32	47/64	53/64	5-1/2
9727	9/16 & 5/8	53/64	29/32	6

WILLIAMS' 12-POINT BOX SUPERRENCHES®

Selected Alloy Steel
15° Angle Offset Pattern



These strong, tough Superrenches® have thin head walls for use in close quarters. The 12-point openings grip hex nuts on six sides, preventing all slipping and rounding of nuts.

Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated over nickel, heads polished.

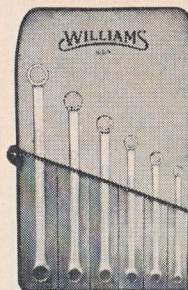
No.	Nominal Openings	Diam. Head		Overall Length
		Small	Large	

Long 15° Angle

7723	3/8 & 1/2	37/64	21/32	7- 3/4
7023	7/32 & 1/2	21/32	47/64	8- 1/16
7725	7/16 & 1/2	21/32	47/64	8- 1/16
7725A	7/16 & 9/16	21/32	53/64	8- 3/8
7725B	1/2 & 9/16	47/64	53/64	8-11/16
7025	1/2 & 13/32	47/64	7/8	9- 1/16
7727	9/16 & 5/8	53/64	29/32	9- 3/8
7027	13/32 & 11/16	29/32	1	9- 3/4
7727A	5/8 & 11/16	29/32	1	9- 3/4
7729	5/8 & 3/4	29/32	1	10- 1/8
7029B	11/16 & 3/4	1	5/64	10- 1/2
7029	11/16 & 25/32	1	1- 1/8	10- 7/8
7729A	3/4 & 25/32	1	1- 1/8	11- 5/8
7030	11/16 & 7/8	1	1- 1/4	11- 1/4
7731A	3/4 & 7/8	1	1- 1/4	12
7031B	25/32 & 15/16	1- 1/8	1-11/64	12- 1/2
7031	25/32 & 7/8	1-11/64	1- 1/4	12- 7/8
7731B	13/16 & 7/8	1-11/64	1- 1/4	12- 7/8
7033A	7/8 & 15/16	1- 1/4	1-21/64	13- 3/8
7733	7/8 & 1	1- 1/4	1-13/32	13- 7/8
7033C	15/16 & 1	1-21/64	1-13/32	14- 3/8
7034	7/8 & 11/16	1-11/32	1- 1/2	15
7034A	15/16 & 11/16	1-21/64	1- 1/2	15- 1/2
7735	1 & 13/16	1-13/32	1- 9/16	16
7735A	11/16 & 13/16	1- 1/2	1- 9/16	16- 5/8
7037	11/16 & 13/16	1- 1/2	1-25/32	17- 1/4
7037A	13/16 & 13/16	1- 9/16	1-27/32	18
7039B	13/16 & 15/16	1-25/32	1-27/32	18- 3/4
7039	13/16 & 15/16	1-25/32	2- 3/64	19- 1/2
7039A	15/16 & 15/16	1-27/32	2- 3/32	20- 1/2
7040B	17/16 & 15/16	2- 3/64	2- 3/32	21- 1/2
7041	17/16 & 15/8	2- 3/64	2- 5/16	22- 1/2
7742B	1 1/2 & 1 1/16	2- 3/32	2-19/32	22- 3/4

Short 15° Angle

6723	3/8 & 7/16	19/32	11/16	4-1/2
6725	7/16 & 1/2	43/64	3/4	5-1/2
6725A	7/16 & 9/16	23/32	7/8	5-1/2
6725B	1/2 & 9/16	23/32	7/8	5-1/2
6025	1/2 & 13/32	23/32	7/8	5-1/2
6727	9/16 & 5/8	13/16	29/32	6



SET No. 7006AR SET No. 7006AB
In Leatherette Roll In Cardboard Box

Set contains 6 15° Offset Box Superrenches®, 1 each Nos. 7723, 7725B, 7727A, 7731A, 7031B and 7033C with 12-point openings 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 25/32, 3/4, 13/16, 7/8, 15/16, 1".

FLARE NUT SUPERRENCHES®

Selected Alloy Steel



Open-box end, has a 6-point opening with a tube opening slot at 22-1/2° to the axis of the handle.

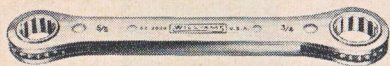
Open end is thin, with slim jaws. Drop-forged, heat-treated and chrome-plated over nickel, heads polished.

No.	Nominal Opening	OPEN BOX END		Overall Length
		Outside Diam.	Max. Tube Clearance	
1312	3/8	21/32	1/4	5-5/8
1314	7/16	25/32	9/32	6
1316	1/2	29/32	3/8	6-3/8
1318	9/16	31/32	7/16	6-7/8
1320	5/8	1- 1/64	15/32	7-5/8
1322	11/16	1- 9/32	9/16	8-3/4
1324	3/4	1- 9/32	9/16	8-3/4
1328	7/8	1- 7/16	11/16	9-1/4
1332	1	1-19/32	3/4	9-7/8
1334	1-1/16	1-25/32	27/32	10-3/4
1336	1-1/8	1-25/32	27/32	10-3/4



WILLIAMS' RATCHET-BOX SUPERRENCHES®

Selected Alloy Steel
Double Head



Turn nuts and bolts faster and easier with these new Ratcheting Box Superrenches®. Openings are accurately broached to assure proper fit.

Made from selected steel. All critical parts are heat-treated for lasting service and safety. Wrenches are chrome-plated over nickel.

No.	Nominal Openings	Dia. Heads		Overall Length	
		Small	Large		
RB-810	1/4 & 5/16	6 Pt.	19/32	5/8	4-1/4
RB-1214	3/8 & 7/16	6 Pt.	23/32	7/8	5-1/2
RB-1618	1/2 & 9/16	6 Pt.	1	1 1/8	6-3/4
RB-2022	5/8 & 11/16	12 Pt.	1 9/32	1 7/16	8
RB-2024	5/8 & 3/4	12 Pt.	1 9/32	1 7/16	8
RB-2428	3/4 & 7/8	12 Pt.	1 13/32	1 9/16	9-1/4

SET

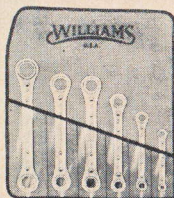
No. RB-3R
In Leatherette Roll



Contains one each Nos. RB-810, RB-1214 and RB-1618.

SET

No. RB-6R
In Leatherette Roll



Contains one each Nos. RB-810, RB-1214, RB-1618, RB-2022, RB-2024 and RB-2428.

WILLIAMS' OPEN END SUPERRENCHES®

Selected Alloy Steel
Single Head—15° Angle



Drop-forged, heat-treated, chrome-plated over nickel. Heads polished.

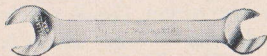
Handle can be bent above head at angles of 45° to 90° from opening at an additional charge.

No.	Nominal Opening	Thickness Head	Overall Length
1000	5/16	3/16	3-5/8
1700	3/8	7/32	4-1/8
1000A	13/32	7/32	4-1/8
1701	7/16	1/4	4-3/4
1001	1/2	1/4	4-3/4
1702	9/16	9/32	5-5/8
1002	19/32	9/32	5-5/8
1703	5/8	5/16	6-1/2
1003	11/16	5/16	6-1/2
1704	3/4	11/32	7-3/8
1004	25/32	11/32	7-3/8
1705	13/16	13/32	8-3/8
1005	7/8	13/32	8-3/8
1006	15/16	15/32	9-1/2
1706	1	15/32	9-1/2
1007	1 1/16	17/32	10-3/4
1707	1 1/8	17/32	10-3/4
1008	1 1/4	5/8	12-1/4
1008A	1 5/16	5/8	12-1/4
1009	1 7/16	11/16	13-7/8
1709	1 1/2	11/16	13-7/8
1010	1 5/8	3/4	15-1/2
1010A	1 11/16	3/4	15-1/2
1011	1 13/16	27/32	17-1/8
1011A	1 7/8	27/32	17-1/8
1012	2	29/32	18-7/8
1012A	2 1/16	29/32	18-7/8
1013	2 3/16	31/32	20-3/4
1013A	2 1/4	31/32	20-3/4
1014	2 3/8	1- 1/32	22-3/4
1014A	2 7/16	1- 1/32	22-3/4

WILLIAMS' MIDGET SUPERRENCHES® Selected Alloy Steel

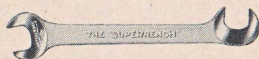
These wrenches are unusually thin and slim, but surprisingly tough and strong. Forged from Selected Alloy Steel, heat-treated and chrome-plated over nickel, head faces polished.

15° ANGLE OPENING



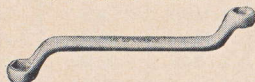
No.	Nominal Openings	Thickness Heads	Extreme Length
1106	13/64 & 7/32	3/32	3
1107	15/64 & 1/4	3/32	3
1108	9/32 & 11/32	1/8	3-1/2
1108A	1/4 & 5/16	1/8	3-1/2
1109	5/16 & 3/8	1/8	3-1/2

15 and 75° ANGLE OPENING



No.	Nominal Openings	Thickness Heads	Extreme Length
1112	3/16 & 3/16	3/32	3
1113	13/64 & 13/64	3/32	3
1114	7/32 & 7/32	3/32	3
1115	15/64 & 15/64	3/32	3
1116	1/4 & 1/4	3/32	3
1118	9/32 & 9/32	1/8	3-3/4
1120	5/16 & 5/16	1/8	3-3/4
1122	11/32 & 11/32	1/8	3-3/4
1124	3/8 & 3/8	1/8	3-3/4
1128	7/16 & 7/16	5/32	4-1/2
1132	1/2 & 1/2	5/32	4-1/2
1136	9/16 & 9/16	3/16	5-1/2
1140	5/8 & 5/8	3/16	5-1/2

6-POINT BOX



No.	Nominal Openings	Extreme Length
1150	3/16 & 13/64	2-7/8
1151	7/32 & 15/64	3-1/8
1152	1/4 & 9/32	3-3/8
1153	5/16 & 11/32	3-3/4



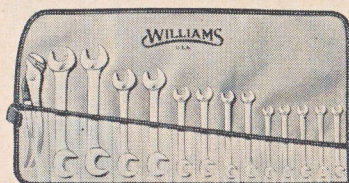
With 1519A Plier
SET No. 1149PR
In Leatherette Roll

Without 1519A Plier
SET No. 1149R
In Leatherette Roll

SET No. 1149PB
In Cardboard Box

SET No. 1149B
In Cardboard Box

Handy assortment of 5 Midget Superrenches® Nos. 1106, 1107, 1108, 1108A, 1109 and 1519A plier.



SET No. 1142 PR
In Leatherette Roll

SET No. 1142 PB
In Cardboard Box

Contains 13 Midget Superrenches® Nos. 1112, 1113, 1114, 1115, 1116, 1118, 1120, 1122, 1124, 1128, 1132, 1136, 1140 and 1519A plier.

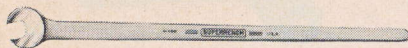


SET No. 1154SR
In Leatherette Roll

SET No. 1154 SB
In Cardboard Box

Contains 4 Midget Box Superrenches® Nos. 1150, 1151, 1152, 1153.

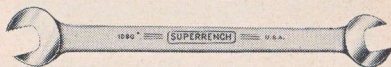
WILLIAMS'
TAPPET SUPERRENCHES®
Selected Alloy Steel
Single Head—15° Angle



Extra long, slender and light with narrow jaws for easy adjustment. The range of openings provides comprehensive service for practically every make of car, including late models. Drop-forged, heat-treated, chrome plated over nickel, heads polished.

No.	Nominal Openings	Thickness Head	Overall Length
A100C	3/8	3/16	15
A100	7/16	3/16	15
A100A	1/2	3/16	15
A100B	9/16	3/16	15
A101	5/8	3/16	15

WILLIAMS'
TAPPET SUPERRENCHES®
Selected Alloy Steel
Double Head—15° Angle



Specially designed for tappet adjustment. Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated over nickel, head faces polished.

No.	Openings and Tappet Sizes	Thickness Heads	Overall Length
1090A	3/8 & 7/16	5/32	8
1090	7/16 & 1/2	5/32	8
1090G	7/16 & 17/32	5/32	8
1090D	1/2 & 9/16	5/32	8
1092	9/16 & 5/8	3/16	8
1092F	5/8 & 11/16	3/16	8
1094G	3/4 & 13/16	7/32	9
1094	3/4 & 7/8	7/32	9
1096	15/16 & 1	7/32	9

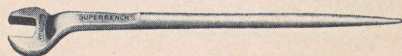
WILLIAMS'
CONSTRUCTION SUPERRENCHES®
Selected Alloy Steel
15° Angle



Drop-forged from Selected Alloy Steel, heat-treated with gray finish.

No.	Nominal Opening	Thickness Head	Overall Length
1205	7/8	17/32	14-1/2
1206B	1	17/32	14-1/2
1207	1- 1/16	5/8	17
1207A	1- 1/8	5/8	17
1208	1- 1/4	11/16	19
1208A	1- 5/16	11/16	19
1209	1- 7/16	3/4	21
1209A	1- 1/2	3/4	21
1210	1- 5/8	27/32	23
1211	1-13/16	15/16	25
1212	2	15/16	25

WILLIAMS'
STRUCTURAL SUPERRENCHES®
Selected Alloy Steel
Straight Opening



Drop-forged from Selected Alloy Steel, heat-treated with gray finish.

No.	Nominal Opening	Thickness Head	Handle Offset At Head	Overall Length
1905	7/8	17/32	1	14-1/2
1906B	1	17/32	1	14-1/2
1907	1- 1/16	5/8	1-1/8	17
1907A	1- 1/8	5/8	1-1/8	17
1908	1- 1/4	11/16	1-1/4	19
1908A	1- 5/16	11/16	1-1/4	19
1909	1- 7/16	3/4	1-3/8	21
1909A	1- 1/2	3/4	1-3/8	21
1910	1- 5/8	13/16	1-1/2	23
1910A	1-11/16	13/16	1-1/2	23
1911	1-13/16	7/8	1-5/8	25
1911A	1- 7/8	7/8	1-5/8	25
1912	2	7/8	1-5/8	25



WILLIAMS' 12-POINT BOX SUPERRENCHES[®]

Selected Alloy Steel

REGULAR PATTERN, 7-1/2° Angle

OFFSET STRIKING FACE



For close quarters. Drop-forged, heat-treated and chrome-plated over nickel, heads polished.

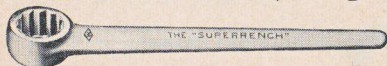


For heavy work where large nuts must be set up tight or frozen nuts loosened. Drop-forged, heat-treated.

No.	Nominal Opening	Head Diameter	Overall Length
1800A	7/16	45/64	3-1/2
1801	1/2	27/32	4
1802A	9/16	61/64	4-7/8
1802	19/32	61/64	4-7/8
1803A	5/8	1- 3/32	5-7/8
1803	11/16	1- 3/32	5-7/8
1804A	3/4	1- 1/4	6-7/8
1804	25/32	1- 1/4	6-7/8
1805A	13/16	1-23/64	7-3/4
1805	7/8	1-23/64	7-3/4
1806	15/16	1-35/64	8-3/4
1806B	1	1-35/64	8-3/4
1807	1- 1/16	1-25/32	9-7/8
1807A	1- 1/8	1-25/32	9-7/8
1808	1- 1/4	2- 1/16	11-1/2
1808A	1- 5/16	2- 1/16	11-1/2
1809	1- 7/16	2- 3/8	13-3/8
1809A	1- 1/2	2- 3/8	13-3/8
1810	1- 5/8	2- 5/8	15-1/4
1810A	1-11/16	2- 5/8	15-1/4
1811	1-13/16	2-29/32	17
1811A	1- 7/8	2-29/32	17
1812	2	3- 1/4	19

No.	Nominal Opening	Head Diameter	Overall Length
8807	1- 1/16	1-11/16	10-1/2
8807A	1- 1/8	1-11/16	10-1/2
8808	1- 1/4	2	11
8808A	1- 5/16	2	11
8809	1- 7/16	2- 3/16	11-1/2
8809A	1- 1/2	2- 3/16	11-1/2
8810	1- 5/8	2- 1/2	12
8810A	1-11/16	2- 1/2	12
8811	1-13/16	2- 3/4	12-1/2
8811A	1- 7/8	2- 3/4	12-1/2
8812	2	3	13-1/2
8813	2- 3/16	3- 3/8	14-3/8
8813A	2- 1/4	3- 3/8	14-3/8
8814	2- 3/8	3-23/32	14
8815	2- 9/16	3-29/32	14-1/2
8815A	2- 5/8	3-29/32	14-1/2
8816	2- 3/4	4- 5/32	15
8816B	2-15/16	4-21/32	16
8817A	3	4-15/16	16-1/2
8817	3- 1/8	4-15/16	16-1/2

HEAVY PATTERN—7-1/2° Angle



See description above.

HEAVY STRIKING FACE



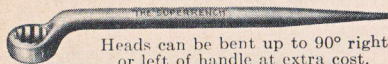
See description above.

No.	Nominal Opening	Head Diameter	Overall Length
H1808	1- 1/4	2- 1/16	11-1/2
H1808A	1- 5/16	2- 1/16	11-1/2
H1809	1- 7/16	2- 3/8	13-3/8
H1809A	1- 1/2	2- 3/8	13-3/8
H1810	1- 5/8	2- 5/8	15-1/4
H1810A	1-11/16	2- 5/8	15-1/4
H1811	1-13/16	2-15/16	17
H1811A	1- 7/8	2-15/16	17
H1812	2	3- 1/4	19
H1813	2- 3/16	3- 1/2	21
H1813A	2- 1/4	3- 1/2	21
H1814	2- 3/8	3- 3/4	23
H1815	2- 9/16	4- 1/8	25
H1815A	2- 5/8	4- 1/8	25
H1816	2- 3/4	4- 9/16	27
H1817A	3	4-13/16	30
H1817	3- 1/8	4-13/16	30

No.	Nominal Opening Across Flats	Head Diameter	Overall Length
SFH-1808	1- 1/4	2- 1/16	7
SFH-1808A	1- 5/16	2- 1/16	7
SFH-1809	1- 7/16	2- 3/8	8-1/4
SFH-1809A	1- 1/2	2- 3/8	8-1/4
SFH-1810	1- 5/8	2- 5/8	9
SFH-1810A	1-11/16	2- 5/8	9
SFH-1811	1-13/16	2-15/16	10
SFH-1811A	1- 7/8	2-15/16	10
SFH-1812	2	3- 1/4	11
SFH-1813	2- 3/16	3- 1/2	12
SFH-1813A	2- 1/4	3- 1/2	12
SFH-1814	2- 3/8	3- 3/4	13
SFH-1815	2- 9/16	4- 1/8	14
SFH-1815A	2- 5/8	4- 1/8	14
SFH-1816	2- 3/4	4- 9/16	15
SFH-1817A	3	4-13/16	17
SFH-1817	3- 1/8	4-13/16	17

STRUCTURAL BOX SUPERRENCHES®

Selected Alloy Steel
12-Point Openings



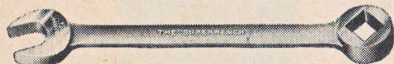
Heads can be bent up to 90° right or left of handle at extra cost.

Drop-forged and heat-treated with gray finish.

No.	Nominal Opening	Head Diam.	Handle Offset	
			At Head	At End
8905A	13/16	1-11/32	1- 1/8	1-25/32
8905	7/8	1-11/32	1- 1/8	1-25/32
8906	15/16	1- 1/2	1- 1/4	1-61/64
8906B	1	1- 1/2	1- 1/4	1-61/64
8907	1- 1/16	1-11/16	1- 5/16	2- 9/64
8907A	1- 1/8	1-11/16	1- 5/16	2- 9/64
8908	1- 1/4	2	1- 7/16	2-21/64
8908A	1- 5/16	2	1- 7/16	2-21/64
8909	1- 7/16	2- 3/16	1- 1/2	2- 3/4
8909A	1- 1/2	2- 3/16	1- 1/2	2- 3/4
8910	1- 5/8	2- 1/2	1- 5/8	2- 7/8
8910A	1-11/16	2- 1/2	1- 5/8	2- 7/8
8911	1-13/16	2- 3/4	1-11/16	3
8911A	1- 7/8	2- 3/4	1-11/16	3
8912	2	3	1-13/16	3- 5/32
8913	2- 3/16	3- 3/8	2	3- 1/2
8914	2- 3/8	3-23/32	2- 1/8	3-11/16
8915	2- 9/16	3-29/32	2- 1/4	3-13/16
8916	2- 3/4	4- 5/32	2- 3/8	3-29/32

TOOL POST SUPERRENCHES®

Selected Alloy Steel
For Nuts and Set Screws

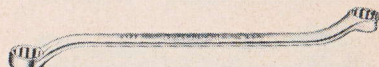


Drop-forged, heat-treated, chrome-plated over nickel. Heads polished.

No.	Nominal Openings		Overall Length
	Open End	Box End	
1562	11/16	9/16	8-3/4
1562A	3/4	9/16	8-3/4
1563B	7/8	1/2	9-1/4
1563D	7/8	5/8	9-1/4
1563E	7/8	3/4	9-1/4
1564	1-1/16	5/8	9-7/8
1564C	1	5/8	9-7/8
1565	1-1/16	3/4	10-3/4
1565C	1	3/4	10-3/4
1566	1-1/4	3/4	10-3/4

METRIC SUPERRENCHES®

Selected Alloy Steel
Double Offset Pattern

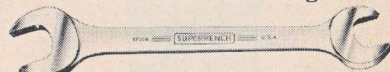


Drop-forged, heat-treated, chrome-plated over nickel. Heads polished.

No.	Metric Openings m/m	Diam. Head		Overall Length
		Small	Large	
M8021	8 & 10	33/64	5/8	7-1/2
M8723	9 & 11	37/64	21/32	7-3/4
M8023	10 & 12	21/32	47/64	8-1/16
M8025A	12 & 13	47/64	53/64	8-11/16
M8725B	13 & 14	47/64	53/64	8-11/16
M8025	13 & 15	47/64	7/8	9-1/16
M8727	14 & 16	53/64	29/32	9-3/8
M8727A	15 & 17	29/32	1	9-3/4
M8729	16 & 18	29/32	1- 5/64	10-1/8
M8029	17 & 19	1	1- 5/64	10-1/2
M8729A	18 & 19	1- 5/64	1-11/64	11-5/8
M8731A	18 & 20	1- 5/64	1-11/64	11-5/8
M8031B	19 & 20	1- 1/8	1-11/64	12-1/2
M8731B	21 & 22	1- 1/4	1-21/64	13-3/8
M8033	23 & 24	1- 1/4	1-13/32	13-7/8
M8033C	23 & 25	1- 1/4	1-13/32	13-7/8
M8034	23 & 27	1-21/64	1- 1/2	15-1/2
M8735A	25 & 28	1-13/32	1- 9/16	16
M8735	26 & 29	1- 1/2	1- 9/16	16-5/8
M8039	30 & 32	1- 9/16	1-27/32	18-3/4

METRIC SUPERRENCHES®

Selected Alloy Steel
Double Head — 15° Angle



Drop-forged, heat-treated, chrome-plated over nickel. Heads polished.

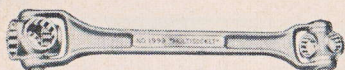
No.	Metric Openings m/m	Head Thick.	Overall Length
M1021	6 & 8	5/32	3-13/16
M1021T	8 & 10	3/16	4- 1/4
M1023	10 & 12	7/32	5- 1/8
M1025	12 & 14	1/4	6- 1/4
M1027	14 & 15	17/64	6- 7/8
M1028	16 & 18	19/64	8- 1/4
M1028T	17 & 19	5/16	9
M1029	18 & 20	11/32	9- 3/4
M1031	20 & 22	11/32	9- 3/4
M1031T	21 & 23	3/8	10- 1/2
M1032	22 & 25	13/32	11- 3/8
M1033	24 & 26	13/32	11- 3/8
M1035	25 & 28	7/16	12- 1/4



WILLIAMS' SPECIAL WRENCHES

Selected Alloy Steel

"MULTISOCKET" WRENCH



No. 1999
EIGHT-IN-ONE

8 Different 12-Point Openings

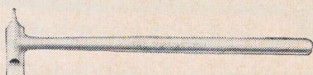
Small Head; 7/16, 1/2, 9/16, 19/32"

Large Head, 5/8, 11/16, 3/4, 7/8"

Swivel heads, with index spring to retain working position, permit handle to be operated at practically any angle desired.

The entire wrench is drop-forged from selected steel, heat-treated and chrome-plated over nickel. Length, 9 inches.

FOR SLOTTED ANCHOR PINS, Etc.



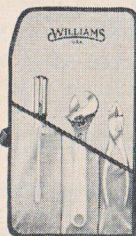
No. 1997

Blade Tips, 1/16 x 13/32"

Length, 6"

For slotted anchor pins, drag links, steering post and other jobs where regular screw drivers cannot be used. Also excellent as a glazier's tool.

GENERAL PURPOSE UTILITY SET

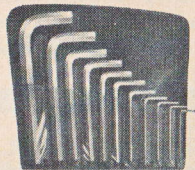


SET No. APS-3R
In Leatherette Roll

An ideal set for numerous small jobs around home and office. Also for general automobile use. Convenient size for glove compartment.

Contains one each No. 24 4" Screw Driver with plastic handle, 8 inch Locking Adjustable Wrench and No. 6 6" Combination Slip-joint Pliers.

HEX KEY WRENCH SET



SET No. 44
In Plastic Roll

Set contains 11 Hex Key wrenches with hex diameters as follows: .050, 1/16, 5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16 and 3/8 inches.

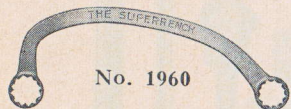
Fit all set screws No. 3 to 3/4" and all cap screws No. 1 to 9/16".

Accurately made from selected steel and cadmium plated.

WILLIAMS' SPECIAL SUPERRENCHES®

Selected Alloy Steel

**FOR STARTER
AND MANIFOLD NUTS**

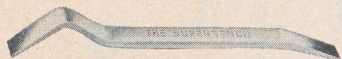


No. 1960

12-Point Openings, 9/16 and 5/8"
Length, 7-1/2"

For starter and manifold nuts. All models Chrysler and Dodge; DeSoto and Plymouth. Also useful for starters and manifolds on many other passenger automobiles. Drop-forged from Selected Alloy Steel, heat-treated, chrome-plated over nickel.

FOR BENDIX STAR NUTS

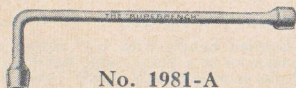


No. 1998B

Blade Tips, 5/64 x 15/32"
Length, 8"

Offset to service Star Nut Eccentric, all Bendix Hydraulic. Drop-forged, heat-treated and chrome-plated over nickel.

FOR CONNECTING RODS



No. 1981-A

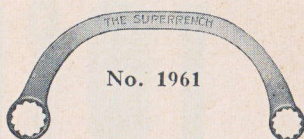
3" Offset, 11-1/2" long

Spin nuts till engaged (short arm for lever); reverse wrench and tighten (long arm for lever).

Special thin design Sockets to handle clearance problem. Forged from Selected Alloy Steel, heat-treated, chrome-plated over nickel.

6-Point Openings, 9/16 and 9/16". Services all Ford 6, all Ford V-8 (except 60 H.P.) and all Mercury connecting rod nuts. Very handy for manifold nuts and valve cap covers.

**FOR CHEVROLET
STARTER NUTS**

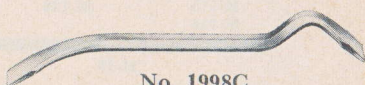


No. 1961

12-Point Openings, 5/8 and 3/4"
Length, 7-1/2"

For starter nuts on Chevrolets. Also useful for starters on many other passenger automobiles. Drop-forged from Selected Alloy Steel, heat-treated, chrome-plated over nickel.

FOR BENDIX STAR NUTS

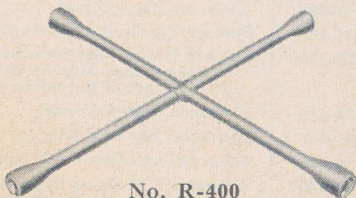


No. 1998C

Spoons, 1-3/4" Long
Overall Length, 9-1/16"

Specially offset for adjusting Star nuts on two-shoe Bendix brakes. Drop-forged, heat-treated and chrome-plated over nickel.

FOUR-WAY RIM WRENCH

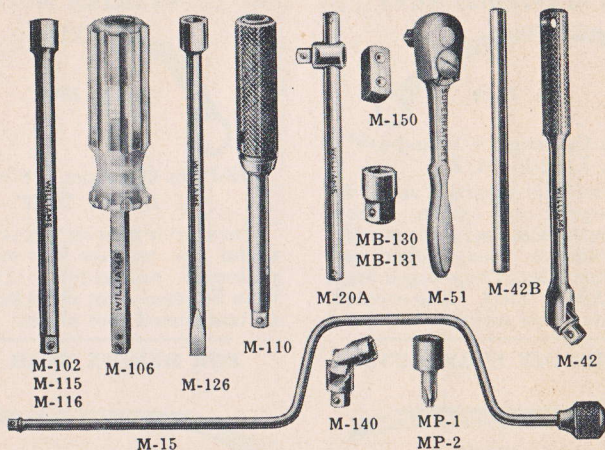


No. R-400

With hexagon socket openings 3/4, 13/16, 7/8 and 15/16", Williams Four-Way Rim Wrench will service wheels on all popular passenger cars and light trucks. Overall arm lengths of 21-1/2" offer ample clearance and leverage. Made of selected steel—finish, chrome-color enamel.

1/4"

1/4 Inch Square Drive MIDGET SUPERSOCKET® WRENCHES Selected Alloy Steel HANDLES and PARTS



No.	PIECE
M-15	Speeder—15-3/4" long with knurled revolving grip.....
M-20A	Sliding T Handle—4-1/2" long.....
M-42	Flex Handle only—5-3/4" long; flexible head, knurled grip, crosshole is for sliding Bar.....
M-42B	Sliding Bar, 1/4 x 4-1/2", for M-42.....
M-51	Reversible Ratchet—4-1/2" long, 24 teeth in ratchet-gear instead of usual 14 to 20. Shift-lever reverses the action instantly.....
M-102	Extension Bar—2" long.....
M-106	Spinner Handle, has plastic grip with 1/4" square drive-opening in end—6" long...
M-110	Spinner Handle, has lockable, revolving, knurled handle with 1/4" square drive-opening in end. May be used as an Extension or as a Driver with handle locked. A slight turn of the handle locks and unlocks same instantly, 5-3/8" long.....
M-115	Extension Bar—6" long.....
M-116	Extension Bar—14" long.....
M-126	Screw Driver Adapter—6" long.....
MB-130	Adapter—1/4" square female and 3/8" square male. Adapts Sockets with 3/8" square drive-openings to Handles with 1/4" square drive.....
MB-131	Adapter—1/4" square male and 3/8" square female. Adapts Sockets with 1/4" square drive-openings to Handles with 3/8" square drive.....
M-140	Universal Joint—approximate range 140°.....
M-150	Plug Adapter—3/4" long; both ends 1/4" square male.....
MP-1	Phillips Screw Driver Attachment—No. 1 Phillips Drive to fit screws No. 4 and smaller.....
MP-2	Phillips Screw Driver Attachment—No. 2 Phillips Drive fits screws Nos. 5 to 9 inclusive.....

1/4 Inch Square Drive MIDGET SUPER SOCKET® WRENCHES

Selected Alloy Steel

1/4"

SOCKETS

Opening	No.	Length
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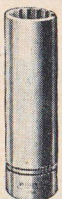
REGULAR 6-POINT

3/16	M-606	27/32
7/32	M-607	27/32
1/4	M-608	27/32
9/32	M-609	27/32



REGULAR 12-POINT

5/16	M-1210	27/32
11/32	M-1211	27/32
3/8	M-1212	27/32
7/16	M-1214	27/32
1/2	M-1216	27/32



EXTRA DEEP 12-POINT

*6 Point, all others 12 Point

1/4	*MD-608	2
9/32	*MD-609	2
5/16	MD-1210	2
11/32	MD-1211	2
3/8	MD-1212	2
7/16	MD-1214	2
1/2	MD-1216	2



REGULAR 4 and 8-POINT

*4 Point, others 8 Point

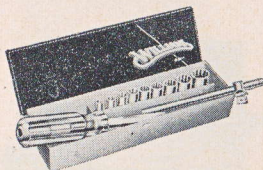
3/16	*M-406	27/32
7/32	*M-407	27/32
1/4	*M-408	27/32
5/16	M-810	27/32
3/8	M-812	27/32

HOLLOW SCREW SOCKET BITS



Bit No.	Hex Plug Size	For Hollow Screws	
		Set Screw	Cap Screw
AM-604	1/8	1/4	No. 8
AM-605	5/32	5/16	10 & 12
AM-606	3/16	3/8	1/4
AM-607	7/32	7/16	5/16

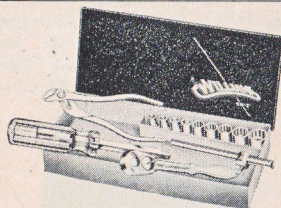
SETS



SET No. M-1 — In Metal Case

No. C-M-1 Case Only — 8 x 2 1/4 x 1 1/4"

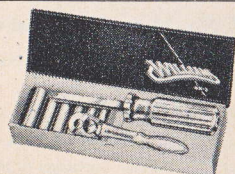
Contains 9 Midget Supersockets®— 4 hex openings, 3/16 to 9/32"; 5 12-point openings, 5/16 to 1/2"; Sliding T Handle and Spinner Handle with plastic grip.



SET No. M-2 — In Metal Case

No. C-M-2 Case Only — 7 1/4 x 3 1/2 x 1 1/4"

Contains 9 Midget Supersockets®— 4 hex openings, 3/16 to 9/32"; 5 12-point openings, 5/16 to 1/2"; Reversible Ratchet; Sliding T Handle; Spinner Handle with plastic grip and Midget Rib-Joint Plier.



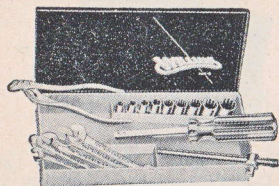
SET No. M-3A — In Metal Case

No. C-M-3A Case Only — 8 x 2 1/4 x 1 1/4"

Contains 7 Extra Deep Midget Supersockets®— 2 hex openings, 1/4 & 9/32"; 5 12-point openings 5/16 to 1/2", Reversible Ratchet and Spinner Handle with plastic grip.

1/4"

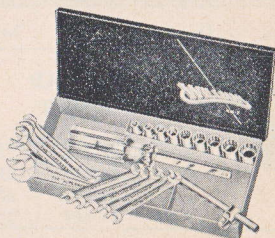
1/4 Inch Square Drive MIDGET SUPERSOCKET® WRENCHES Selected Alloy Steel SETS



SET No. M-5—In Metal Case

No. C-M-5 Case Only — $7\frac{3}{4} \times 3\frac{1}{2} \times 1\frac{1}{4}$ "

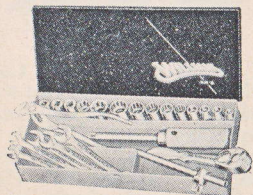
Contains 9 Midget Supersockets®—4 hex openings, 3/16 to 9/32"; 5 12-point openings, 5/16 to 1/2"; Sliding T Handle; Spinner Handle with plastic grip; Midget "Rib-Joint Plier" and 5 Midget Superrenches® with openings, 13/64 to 3/8".



SET No. M-7A—In Metal Case

No. C-M-7A Case Only — $7\frac{3}{4} \times 3\frac{1}{2} \times 1\frac{1}{4}$ "

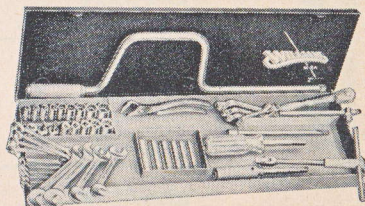
Contains 9 Midget Supersockets®—4 hex openings, 3/16 to 9/32"; 5 12-point openings, 5/16 to 1/2"; Sliding T Handle; Spinner Handle with plastic grip and 13 Midget Superrenches® with 15-75° angle openings, 3/16 to 5/8".



SET No. M-6—In Metal Case

No. C-M-6 Case Only — $7\frac{3}{4} \times 3\frac{1}{2} \times 1\frac{1}{4}$ "

Contains 14 Midget Supersockets®—4 hex openings, 3/16 to 9/32"; 5 12-point openings, 5/16 to 1/2"; 3 square openings 3/16 to 1/4"; 2 8-point openings 5/16, 3/8"; Sliding T Handle; Reversible Ratchet; Spinner Handle with lockable revolving grip; Midget "Rib-Joint Plier" and 5 Midget Superrenches® with openings 13/64 to 3/8".



SET No. M-8B—In Metal Case

No. C-M-8B Case Only — $18\frac{3}{4} \times 5\frac{1}{4} \times 1\frac{3}{8}$ "

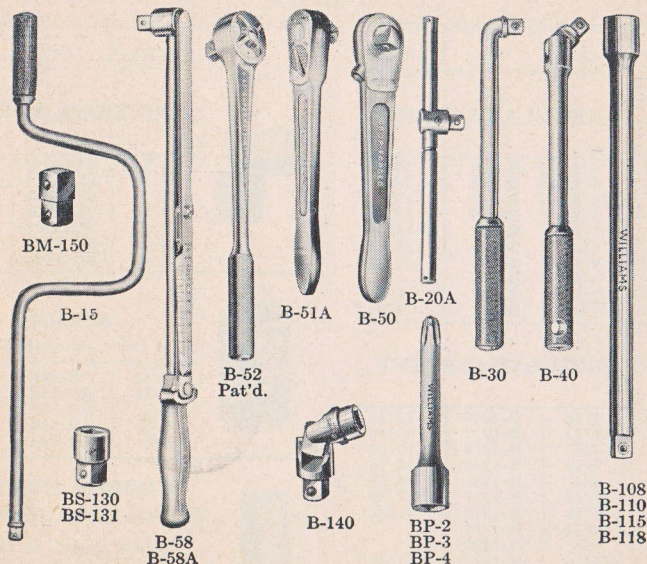
Contains 14 Midget Supersockets®—4 hex openings, 3/16 to 9/32"; 5 12-point openings, 5/16 to 1/2"; 3 square openings, 3/16 to 1/4"; 2 8-point openings, 5/16, 3/8"; 7 Midget Extra Deep Supersockets®—5 12-point openings, 5/16 to 1/2".

29 Attachments, Wrenches, etc.—Speeder, Sliding T; Flex Handle and Bar; Reversible Ratchet; 2 Spinner Handles, one with plastic grip; Universal; 1 Regular and 2 Phillips Screw Driver Attachments; Midget "Rib-Joint Plier"; 4 Midget Box Superrenches® with openings 3/16 to 11/32" and 13 Midget Superrenches® with 15-75° angle openings, 3/16 to 5/8".



3/8 Inch Square Drive BANTAM SUPERSOCKET® WRENCHES Selected Alloy Steel

3/8"



No.	PIECE
BP-2	Phillips Screw Driver Attachment—fits screws Nos. 5 to 9 inclusive.
BP-3	Phillips Screw Driver Attachment—fits screws Nos. 10 to 16 inclusive.
BP-4	Phillips Screw Driver Attachment—fits screws Nos. 18 and larger.
B-15	Speeder—16-1/2" long with knurled revolving grip. Handle sweep—3-1/2" R.
B-20A	Sliding T Handle—6-1/2" long.
B-30	Offset Handle—7-3/4" long with non-revolving knurled grip.
B-40	Flex Handle—8-1/2" with flexible head and knurled grip, 3/8" square drive hole for use as an Extension; 3/8" cross-hole for Sliding Bar.
B-42B	Sliding Bar—5/16" rd. x 6" long, fits B-40.
B-50	Ratchet—6-1/2" long with B-150 Connector.
B-51A	Reversible Ratchet—has both 3/8" sq. male and 1/4" sq. female ratchet drive in head, also 3/16 and 1/4" sq. drive holes in handle end.
B-52	Reversible Ratchet—7-5/8" long. Concentric type Mechanism of 82 tooth action permits rotation of nuts in close quarters. Shift lever reverses action instantly.
B-58	Torque Measurrench®—15-1/2" long. Indicates R.H. and L.H. torque 0 to 600 inch pounds. See Page 20.
B-58A	Torque Measurrench®—12-1/4" long. Indicates R.H. and L.H. torque 0 to 150 inch pounds. See Page 20.
B-108	Extension Bar—3" long.
B-110	Extension Bar—5-1/2" long.
B-115	Extension Bar—10-1/2" long.
B-118	Extension Bar—18" long.
BS-130	Adapter—3/8" sq. female and 1/2" sq. male.
BS-131	Adapter—3/8" sq. male and 1/2" sq. female.
B-140	Universal Joint—approximate range, 140°.
B-150	Ratchet Plug Connector for B-50 Ratchet.
BM-150	Adapter—3/8" sq. male and 1/4" sq. male.



3/8"

3/8 Inch Square Drive BANTAM SUPER SOCKET® WRENCHES Selected Alloy Steel SOCKETS

Opening	No.	Length
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REGULAR-6-POINT



1/4	B-608	15/16
5/16	B-610	15/16
11/32	B-611	15/16
3/8	B-612	15/16
7/16	B-614	15/16
1/2	B-616	15/16
9/16	B-618	31/32
5/8	B-620	1
11/16	B-622	1- 1/32
3/4	B-624	1- 3/32

REGULAR-12-POINT



5/16	B-1210	15/16
11/32	B-1211	15/16
3/8	B-1212	15/16
7/16	B-1214	15/16
1/2	B-1216	15/16
17/32	B-1217	31/32
9/16	B-1218	31/32
19/32	B-1219	1
5/8	B-1220	1
11/16	B-1222	1- 1/32
3/4	B-1224	1- 3/32
13/16	B-1226	1- 3/16
7/8	B-1228	1- 1/4

EXTRA DEEP 6-POINT



3/8	BD-612	2
7/16	BD-614	2
1/2	BD-616	2
9/16	BD-618	2
5/8	BD-620	2-1/4
11/16	BD-622	2-3/8
3/4	BD-624	2-1/2
13/16	BD-626	2-5/8

EXTRA DEEP 12-POINT



3/8	BD-1212	2
7/16	BD-1214	2
1/2	BD-1216	2
9/16	BD-1218	2
5/8	BD-1220	2- 1/4
11/16	BD-1222	2- 3/8
3/4	BD-1224	2- 1/2
13/16	BD-1226	2- 5/8
7/8	BD-1228	2-13/16

Opening	No.	Width
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UNIVERSAL-12-POINT



3/8	BU-1212	1-37/64
7/16	BU-1214	1-39/64
1/2	BU-1216	1-41/64
9/16	BU-1218	1-11/16
5/8	BU-1220	1- 3/4
11/16	BU-1222	1-25/32
3/4	BU-1224	1-13/16

8-POINT

*4 Point, all others 8 Point



9/32	*B-409	15/16
7/16	BD-814	1-1/2
1/2	BD-816	1-1/2
9/16	BD-818	1-1/2
5/8	BD-820	1-1/2

RUBBER INSERT SPARK PLUG SOCKET



Rubber insert is designed to hold plug in place when removing or replacing. The 3/4" hex on end of socket is useful in reaching tight spots.

13/16	BD-626R	2-1/2
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CROWFOOT



3/8	BC-1700	29/32
7/16	BC-1701	29/32
1/2	BC-1001	1- 1/8
9/16	BC-1702	1- 1/8
5/8	BC-1703	1-11/32
11/16	BC-1003	1-11/32

HOLLOW SCREW BITS

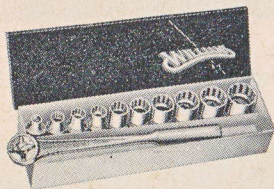


Bit No.	Hex. Plug Size	For Hollow Screws	
		Set Screw	Cap Screw
AB-608	1/4	1/2 & 5/16	5/8 & 3/4
AB-610	5/16	5/8	3/4 & 7/8



3/8 Inch Square Drive BANTAM SUPERSOCKET® WRENCHES
Selected Alloy Steel
SETS

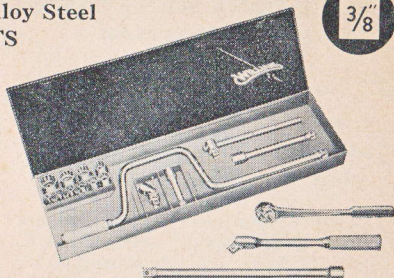
3/8"



SET No. B-1—In Metal Case

No. C-B-1 Case Only — 8 x 2 1/4 x 1 1/4"

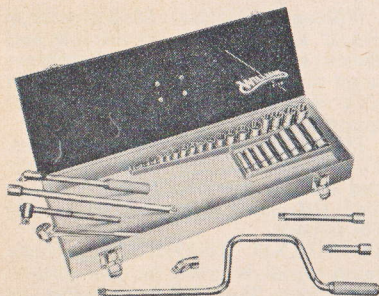
Contains 10 Supersockets®—1 hex, opening, 1/4"; 9 12-point, openings, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" and Reversible Ratchet.



SET No. B-4—In Metal Case

No. C-B-4 Case Only — 18 3/4 x 5 1/4 x 1 3/8"

Contains 10 Supersockets®—1 hex 1/4"; 9 12-point 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4". Speeder, Sliding T, Flex Handle, Ratchet, 3 Extensions and Universal.

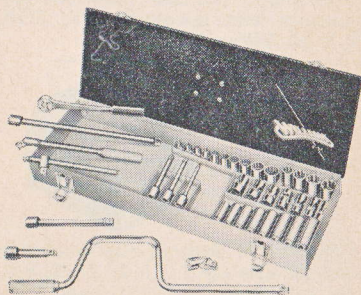


SET No. B-5B—In Metal Case

No. C-B-5B Case Only — 22 x 7 3/4 x 2 1/4"

Contains 27 Supersockets® — 15 Regular, 1 4-point opening 9/32"; 1 6-point opening 1/4"; 13 12-point openings, 5/16, 11/32, 3/8, 7/16, 1/2, 17/32, 9/16, 19/32, 5/8, 11/16, 3/4, 13/16 and 7/8". 4 Extra Deep with 8-point openings, 7/16, 1/2, 9/16 and 5/8"; 8 Extra Deep with 12-point openings, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16 and 7/8".

8 Attachments—Speeder, Sliding T, Flex Handle, Reversible Ratchet, 3 Extensions and Universal.



SET No. B-6B—In Metal Case

No. C-B-6B Case Only — 22 x 7 3/4 x 2 1/4"

Contains 34 Supersockets® — 15 Regular, 1 4-point, 9/32"; 1 6-point, 1/4"; 13 12-point, 5/16, 11/32, 3/8, 7/16, 1/2, 17/32, 9/16, 19/32, 5/8, 11/16, 3/4, 13/16, 7/8"; 4 Extra Deep 8-point, 7/16, 1/2, 9/16, 5/8"; 8 Extra Deep 12-point, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8"; 7 Universal 12-point, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4".

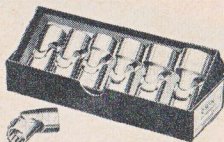
Speeder, Sliding T, Flex Handle, Ratchet, 3 Extensions, Universal and 3 Phillips Drivers.



WILLIAMS'
3/8" SQ. DRIVE SOCKET SETS
 Selected Alloy Steel

SET No. B-2

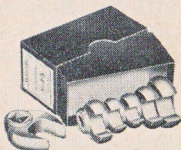
**In
Cardboard
Box**



Contains 7 Bantam Universal Super-sockets® with 12-point openings, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".

SET No. B-3

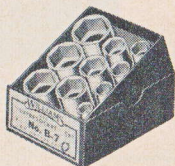
**In
Cardboard
Box**



Contains 6 Bantam Crowfoot Attachments with openings, 3/8, 7/16, 1/2, 9/16, 5/8 and 11/16".

SET No. B-7

**In
Cardboard
Box**

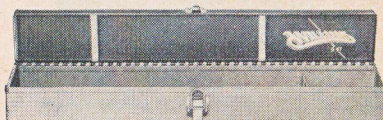


Contains 10 Bantam Supersockets® with 6-pt. openings, 1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".

WILLIAMS'
TORQUE MEASURRENCHES®
 Selected Alloy Steel



**Reversible Ratchet
With Right Hand Torque
Indicating Signal**



**No. S-57
In Metal Case
20 x 3 x 2-1/8"**

**STANDARD PATTERN
1/2" Square Drive**

Williams' Ratchet Measurrench,® 19-1/2" long, is the most durable and efficient tool for torque indicating service on the market. It can be applied to ANY detachable Socket having 1/2" square drive-opening.

The wrench may be used in two ways: **BY SIGHT READING**—An easily read scale on the handle indicates applied tightening pressures 20 to 200 foot-pounds.

BY SOUND READING—A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds, by setting the simple sound device. Right-hand torque only is measured, but action of wrench reverses instantly for left-hand turning.

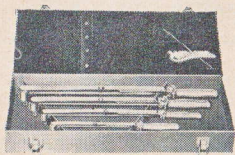
Every part is made of selected alloy and high tensile steel, accurately machined and heat-treated. Chrome-plated; with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome. Packed in individual metal case. Operating instructions are supplied with each wrench.

CONTENTS

No.	Sq. Dr. Size	Capacity
B-58A	3/8"	0 to 150 inch lbs.
B-58	3/8"	0 to 600 inch lbs.
S-58A	1/2"	0 to 100 foot lbs.
S-58	1/2"	0 to 200 foot lbs.

No.	Capacity	Length
S-57	20 to 200 foot lbs.	19-1/2

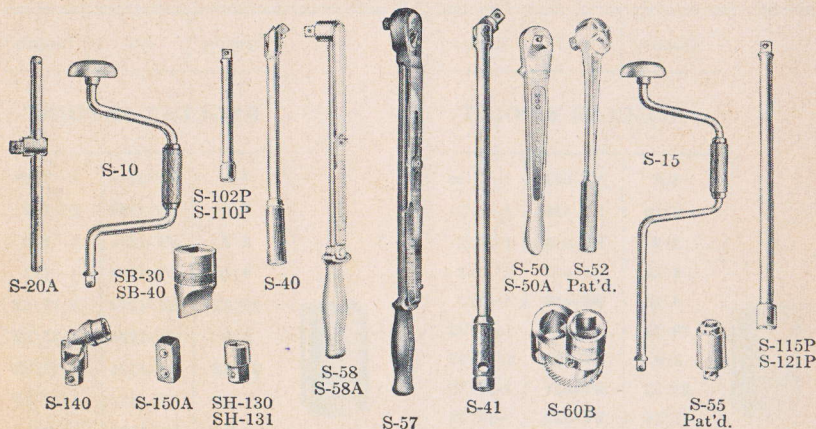
SET No. T4-58 In Metal Case



1/2 Inch Square Drive STANDARD SUPERSOCKET® WRENCHES

Selected Alloy Steel HANDLES and PARTS

1/2"



No.	PIECE
S-10	Speeder—12" long, with knurled revolving grips.
S-15	Speeder—17-1/2" long, with knurled revolving grips.
S-20A	Sliding T Handle—11" long.
SB-30	Screw Driver Socket Attachment—7/64 x 15/16" blade.
SB-40	Screw Driver Socket Attachment—3/32 x 1-1/4" blade.
S-40	Flex Handle—12" long, flexible head. Knurled grip with 1/2" square drive hole in end for use as an Extension; 7/16" round cross hole for Bar.
S-41	Flex Handle—17-1/4" long; flexible head. Knurled grip with 1/2" square drive hole for use as an Extension; 7/16" round cross hole for Bar.
S-42B	Sliding Bar—7/16" round x 9" for S-40 and S-41 Flex Handles.
S-50	Ratchet—10" long, complete with Locked-in Plug-Connector.
S-50A	Ratchet—10" long, without Plug-Connector.
S-52	Reversible Ratchet—11-1/4" long. Concentric type mechanism of 82 tooth action permits rotation of nuts in close quarters. Shift lever reverses action instantly.
S-55	Ratchet Adapter—2-9/16" long, 1-1/4" diameter. For Ratchet action with Speeders, Handles, etc. Shift-lever reverses the action instantly.
S-57	Torque Measurrench®—19-1/2" long; indicates R.H. Torque. Has Torque-indicating signal. Indicates R. H. Torque 20 to 200 foot pounds. See page 20.
S-58	Torque Measurrench®—19-7/8" long. Indicates R.H. and L.H. Torque 0 to 200 foot pounds. See page 20.
S-58A	Torque Measurrench®—18" long. Indicates R.H. and L.H. Torque 0 to 100 foot pounds. See page 20.
S-60B	Stud Remover—1/2" Square Drive. Stud capacity, 1/4 to 3/4"
S-102P	Extension Bar—2-1/2" long.
S-110P	Extension Bar—5-1/2" long.
S-115P	Extension Bar—10-1/2" long.
S-121P	Extension Bar—20" long.
SH-130	Adapter—1/2" square female and 3/4" square male.
SH-131	Adapter—3/4" square female and 1/2" square male.
S-140	Universal—approximate range 140°
S-150A	Ratchet Plug-Connector for S-50 Ratchet.

1/2 Inch Square Drive STANDARD SUPERSOCKET® WRENCHES

Selected Alloy Steel SOCKETS

1/2"

Opening	No.	Length
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REGULAR 6-POINT

3/8	ST-612	1- 7/16
7/16	ST-614	1- 1/2
1/2	ST-616	1- 1/2
9/16	ST-618	1- 1/2
9/16	SF-618	1- 1/2
19/32	ST-619	1-17/32
5/8	ST-620	1-17/32
21/32	ST-621	1-17/32
11/16	ST-622	1-17/32
3/4	ST-624	1- 9/16
25/32	ST-625	1- 9/16
13/16	ST-626	1-19/32
7/8	ST-628	1-41/64
15/16	ST-630	1-41/64
1	ST-632	1-11/16



Opening	No.	Length
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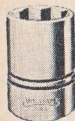
REGULAR 12-POINT

3/8	ST-1212	1- 7/16
7/16	ST-1214	1- 1/2
1/2	ST-1216	1- 1/2
9/16	ST-1218	1- 1/2
19/32	ST-1219	1-17/32
5/8	ST-1220	1-17/32
21/32	ST-1221	1-17/32
11/16	ST-1222	1-17/32
3/4	ST-1224	1- 9/16
25/32	ST-1225	1- 9/16
13/16	ST-1226	1-19/32
7/8	ST-1228	1-41/64
15/16	ST-1230	1-41/64
31/32	ST-1231	1-21/32
1	ST-1232	1-11/16
1-1/16	ST-1234	1-27/32
1-1/8	ST-1236	1-27/32
1-3/16	ST-1238	1-29/32
1-1/4	ST-1240	2



REGULAR 8-POINT

5/16	ST-810	1- 1/2
3/8	ST-812	1- 1/2
7/16	ST-814	1-17/32
1/2	ST-816	1-17/32
9/16	ST-818	1- 9/16
5/8	ST-820	1-41/64
11/16	ST-822	1-41/64
3/4	ST-824	1-11, 16
13/16	ST-826	1-11/16
7/8	ST-828	1-27/32
1	ST-832	2



UNIVERSAL 12-POINT

1/2	SU-1216	2- 7/32
9/16	SU-1218	2- 1/4
5/8	SU-1220	2-21/64
11/16	SU-1222	2- 3/8
3/4	SU-1224	2-29/64





1/2 Inch Square Drive STANDARD SUPERSOCKET® WRENCHES

Selected Alloy Steel SOCKETS



Opening	No.	Length
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EXTRA DEEP 6-POINT

* 13/16	SD-626	3-1/4
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EXTRA DEEP 12-POINT



1/2	SD-1216	3-1/4
9/16	SD-1218	3-1/4
5/8	SD-1220	3-1/4
11/16	SD-1222	3-1/4
3/4	SD-1224	3-1/4
25/32	SD-1225	3-1/4
* 13/16	SD-1226	3-1/4
7/8	SD-1228	3-1/4
† 7/8	SD-1228T	3-1/4
15/16	SD-1230	3-1/4
1	SD-1232	3-1/4
1-1/16	SD-1234	3-1/4
1-1/8	SD-1236	3-1/4

Metric Openings m/m	No.	Length
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METRIC 12-POINT



10	STM-1210	1- 1/2
11	STM-1211	1- 1/2
12	STM-1212	1- 1/2
13	STM-1213	1- 1/2
14	STM-1214	1- 1/2
15	STM-1215	1-17/32
16	STM-1216	1-17/32
17	STM-1217	1-17/32
18	STM-1218	1- 9/16
19	STM-1219	1- 9/16
20	STM-1220	1- 9/16
21	STM-1221	1-19/32
22	STM-1222	1-41/64
23	STM-1223	1-41/64
24	STM-1224	1-41/64
25	STM-1225	1-11/16
26	STM-1226	1-27/32
27	STM-1227	1-27/32
28	STM-1228	1-27/32
29	STM-1229	1-27/32
30	STM-1230	1-29/32
31	STM-1231	1-29/32
32	STM-1232	2
33	STM-1233	2
34	STM-1234	2- 1/8
35	STM-1235	2- 1/8
36	STM-1236	2- 1/8

FOR CADILLAC CONNECTING ROD 6 POINT

The Cadillac Connecting Rod Nut requires this unusually strong socket for servicing all models requiring 7/16" opening.



7/16	SC-614	3-1/8
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HOLLOW SCREW BITS

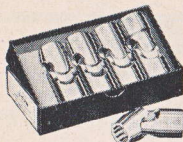


Bit No.	Hex Plug Size	For Hollow Screws	
		Set Screw	Cap Screw
AS-612	3/8	3/4	1/2 & 3/8
AS-616	1/2	7/8	5/8
AS-618	9/16	1 & 1 1/8	3/4 & 7/8
AS-620	5/8	1 1/4 & 1 1/2	1

* Services 14 mm. Plugs. † Not Guaranteed because of extra thin walls.

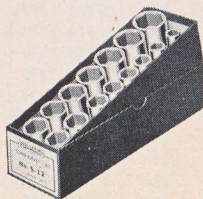
1/2"

**1/2 Inch Square Drive STANDARD SUPERSOCKET® WRENCHES
Selected Alloy Steel
SETS**



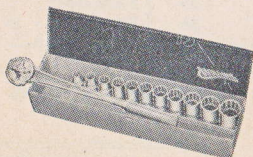
**SET No. S-11
In Cardboard Box**

Contains 5 Universal Supersockets® with 12-point openings—1/2, 9/16, 5/8, 11/16 and 3/4".



SET No. S-12—In Cardboard Box

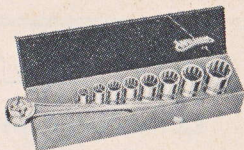
Contains 15 Standard Supersockets® with 6-point openings—3/8, 7/16, 1/2, 9/16, *9/16 Ford Special, 19/32, 5/8, 21/32, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16 and 1".



SET No. S-1A—In Metal Case
No. C-S-1A Case Only—12-1/2 x 3-3/4 x 2-1/8"

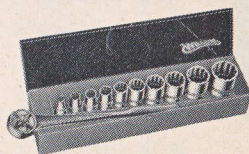
Contains 11 Standard Supersockets® with 12-point openings 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1" and Reversible Ratchet.

*For all Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods.



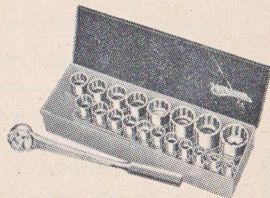
SET No. S-2A—In Metal Case
No. C-S-2A Case Only—12-1/2 x 3-3/4 x 2-1/8"

Contains 8 Standard Supersockets® with 12-point openings 1/2, 9/16, 11/16, 3/4, 7/8, 15/16, 1-1/16, 1-1/4" and Reversible Ratchet.



SET No. S-3A—In Metal Case
No. C-S-3A Case Only—12-1/2 x 3-3/4 x 2-1/8"

Contains 10 Standard Supersockets® with 12-point openings 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1-1/8" and Reversible Ratchet.



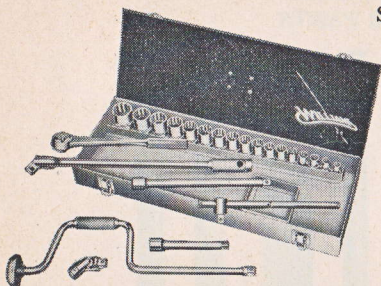
SET No. S-4—In Metal Case
No. C-S-4 Case Only—12-1/2 x 3-3/4 x 2-1/8"

Contains 19 Standard Supersockets® with 12-point openings 3/8 to 1-1/4" and Reversible Ratchet.



1/2 Inch Square Drive STANDARD SUPERSOCKET® WRENCHES
Selected Alloy Steel
SETS

1/2"

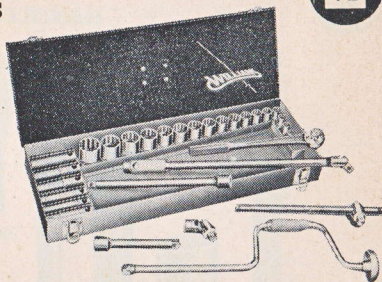


SET No. S-5—In Metal Case

No. C-S-5 Case Only — 22 x 7 $\frac{3}{4}$ x 2 $\frac{1}{4}$ "

Contains 17 Standard Supersockets® with 12-point openings 3/8 to 1-1/4".

7 Attachments—Speeder, Sliding T Handle, Flex Handle, Reversible Ratchet, 2 Extension Bars and Universal Joint.

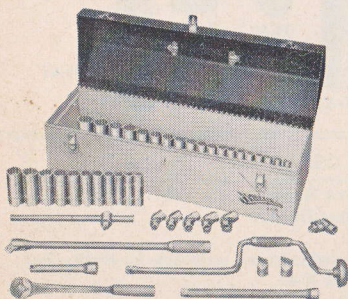


SET No. S-6—In Metal Case

No. C-S-6 Case Only — 22 x 7 $\frac{3}{4}$ x 2 $\frac{1}{4}$ "

Contains 23 Standard Supersockets® —17 with 12-point openings 3/8 to 1-1/4"; 6 Extra Deep with 12-point openings 9/16 to 1".

7 Attachments—Speeder, Sliding T Handle, Flex Handle, Reversible Ratchet, 2 Extension Bars and Universal Joint.



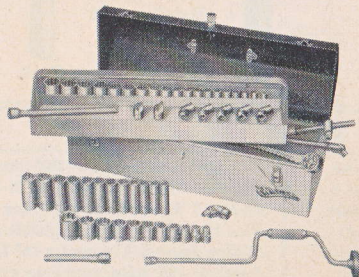
SET No. S-7B—In Hip Roof Case

No. C-S-7B Case Only — 23 $\frac{1}{4}$ x 7 $\frac{1}{2}$ x 9 $\frac{1}{4}$ "

No. TT-1 Tote Tray Only to Fit C-S-7B Case

Contains 35 Standard Supersockets® —19 Regular with 12-point openings 3/8 to 1-1/4"; 5 Universal with 12-point openings 1/2 to 3/4"; 11 Extra Deep with 12-point openings 1/2 to 1-1/8".

9 Attachments—Speeder, Sliding T Handle, Flex Handle, Reversible Ratchet, 2 Extension Bars, Universal Joint and 2 Drag Link Socket Bits.



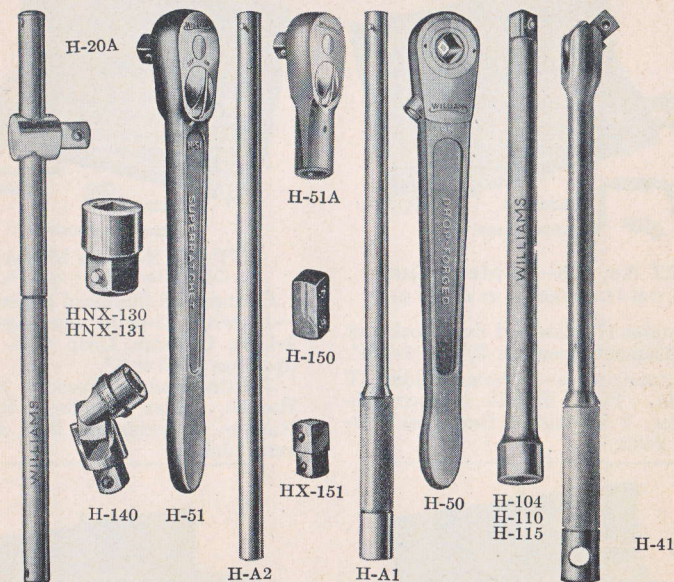
SET No. S-7C—In Hip Roof Case

No. C-S-7C Case Only — 23 $\frac{1}{4}$ x 7 $\frac{1}{2}$ x 9 $\frac{1}{4}$ "

Contains 47 Standard Supersockets® —19 Regular with 12-point openings 3/8 to 1-1/4"; 11 Regular with 8-point openings 5/16 to 1"; 5 Universal with 12-point openings 1/2 to 3/4"; 12 Extra Deep 12-point openings 1/2 to 1-1/8".

9 Attachments—Speeder, Sliding T Handle, Flex Handle, Reversible Ratchet, 2 Extension Bars, Universal Joint and 2 Drag Link Socket Bits.

3/4 In. Square Drive **HEAVY DUTY SUPERSOCKET®** WRENCHES Selected Alloy Steel HANDLES and PARTS



No.	PIECE
H-A1	Handle—Knurled Grip, 20" long, for H-51A Head.....
H-A2	Handle—Plain, 20" long, for H-51A Ratchet Head.....
H-20A	Sliding T Handle—17-1/2" long.....
H-41	Flex Handle—20" long; flexible head, knurled grip and cross hole for Sliding Bar....
H-41B	Sliding Bar—3/4" round x 16" for H-41 and X-41.....
H-50	Ratchet—18" long; complete with Plug-Connector H-150.....
H-51	Reversible Ratchet—19" long. 24 teeth in Ratchet-gear instead of usual 16. Shift-lever reverses action instantly.....
H-51A	Reversible Ratchet Head—6-1/4" long. Mechanism same as H-51.....
H-51A1	Reversible Ratchet Head with Knurled Handle—24-1/2" long.....
H-51A2	Reversible Ratchet Head with Plain Handle—24-1/2" long.....
H-104	Extension Bar— 4" long.....
H-110	Extension Bar— 8" long.....
H-115	Extension Bar—15-1/2" long.....
HNX-130	Adapter—3/4" square female and 1" square male.....
HNX-131	Adapter—3/4" square male and 1" square female.....
H-140	Universal—approximate range 140°.....
H-150	Plug-Connector for H-50 Ratchet.....
HX-151	Adapter—1" square male and 3/4" square male.....

3/4 In. Square Drive HEAVY DUTY SUPERSOCKET® WRENCHES

Selected Alloy Steel

3/4"

SOCKETS

Opening	No.	Length
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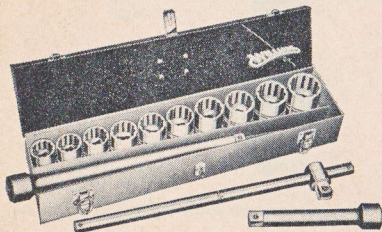
REGULAR 12-POINT SOCKETS

7/8	H-1228	2
15/16	H-1230	2
31/32	H-1231	2- 1/16
1	H-1232	2- 1/16
1- 1/16	H-1234	2- 1/8
1- 1/8	H-1236	2- 1/8
1- 3/16	H-1238	2- 3/16
1- 1/4	H-1240	2- 1/4
1- 5/16	H-1242	2- 5/16
1- 3/8	H-1244	2- 3/8
1- 7/16	H-1246	2- 7/16
1- 1/2	H-1248	2- 1/2
1- 9/16	H-1250	2- 9/16
1- 5/8	H-1252	2- 5/8
1-11/16	H-1254	2- 3/4
1- 3/4	H-1256	2-13/16
1-13/16	H-1258	2-13/16
1- 7/8	H-1260	2-29/32
2	H-1264	3
2- 1/16	H-1266	3- 1/8
2- 1/8	H-1268	3- 1/4
2- 3/16	H-1270	3- 3/8
2- 1/4	H-1272	3- 1/2



EXTRA DEEP 12-POINT SOCKETS

15/16	HD-1230	3-1/4
1-1/16	HD-1234	3-1/4
1-1/4	HD-1240	3-1/4
1-7/16	HD-1246	3-1/2

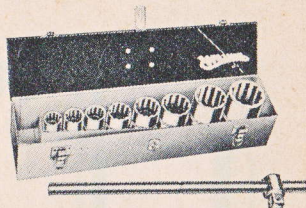


SET No. H-2A—In Metal Case

No. C-H-2A Case Only — 19 3/4 x 4 x 3 3/8"

Contains 10 Supersockets® with 12-point openings, 1, 1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-7/16, 1-1/2, 1-5/8, 1-11/16, and 1-13/16".
3 Attachments—Sliding T Handle and 2 Extension Bars.

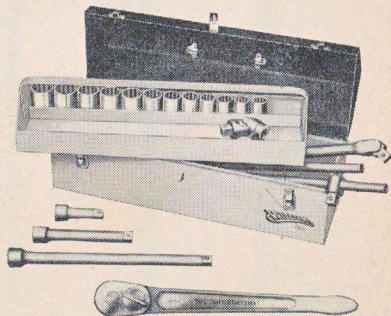
SETS



SET No. H-1A—In Metal Case

No. C-H-1A Case Only — 19 3/4 x 4 x 3 3/8"

Contains 8 Supersockets® with 12-point openings, 7/8, 15/16, 1-1/16, 1-1/4, 1-7/16, 1-5/8, 1-13/16, 2" and H-20A Sliding T Handle.



SET No. H-3A—In Hip Roof Case

No. C-H-3A Case Only — 23 1/4 x 7 1/2 x 9 1/4"

Contains 12 Supersockets® with 12-point openings, 1, 1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-7/16, 1-1/2, 1-5/8, 1-11/16, 1-13/16, 1-7/8 and 2".

8 Attachments—Sliding T Handle, Flex Handle and Bar, Reversible Ratchet, 3 Extension Bars and Universal Joint.

SET No. H-4 — In Hip Roof Case

No. C-H-4 Case Only — 23 1/4 x 7 1/2 x 9 1/4"

Contains 23 Supersockets® with 12-point openings, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16, 1-5/8, 1-11/16, 1-3/4, 1-13/16, 1-7/8, 2, 2-1/16, 2-1/8, 2-3/16 and 2-1/4".

9 Attachments—Sliding T Handle, Flex Handle and Bar, Reversible Ratchet Head with separate Handle, 3 Extensions and Universal Joint.

1"

1 In. Sq. Dr. EXTRA HEAVY DUTY SUPER SOCKET® WRENCHES
Selected Alloy Steel
HANDLES and PARTS



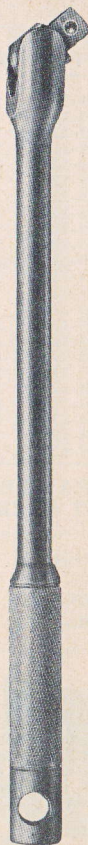
X-115



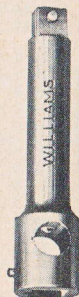
X-20B



X-51



X-41



X-110



X-20C

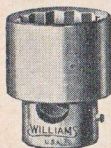
No.	PIECE
X-20B	Sliding Handle—1" diameter, 20" long.
X-20C	Adapter for Sliding Handle X-20B.
X-41	Flex Handle—27" long; flexible head, knurled grip and cross hole for Sliding Bar H-41B. See page 26.
X-51	"Superratchet"—Reversible—25" long, 24 teeth in Ratchet-gear instead of the usual 16. Shift-lever reverses action instantly.
X-110	Extension Bar—9" long. Has cross hole for Sliding Handle X-20B.
X-115	Extension Bar—18" long. Has cross hole for Sliding Handle X-20B.

1 In. Sq. Dr. EXTRA HEAVY DUTY SUPERSOCKET® WRENCHES

Selected Alloy Steel

1"

12-POINT SOCKETS

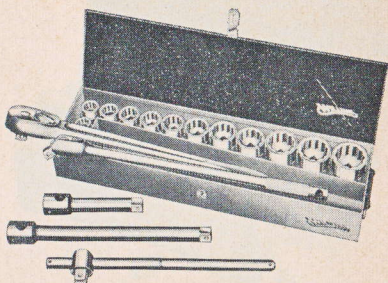


Sockets are cross-drilled to receive Sliding Handle. "Lock-Socket" device provides a positive lock between sockets and attachments. To release, press button on socket and pull.

Opening	No.	Length
1- 1/16	X-1234	2-23/32
1- 1/8	X-1236	2-13/16
1- 1/4	X-1240	2- 7/8
1 3/8	X-1244	2-15/16
1- 7/16	X-1246	2-15/16
1- 1/2	X-1248	3
1- 5/8	X-1252	3- 1/16
1-13/16	X-1258	3- 1/4
1- 7/8	X-1260	3- 3/8
2	X-1264	3- 1/2
2- 1/8	X-1268	3- 5/8
2- 3/16	X-1270	3- 3/4
2- 1/4	X-1272	3- 7/8
2- 3/8	X-1276	4
2- 1/2	X-1280	4
*2- 9/16	X-1282	4
*2- 5/8	X-1284	4
*2- 3/4	X-1288	4- 1/4
*2-15/16	X-1294	4- 1/4
*3- 1/8	X-12100	4- 1/2

* These Sockets have short neck, no cross-hole.

SETS

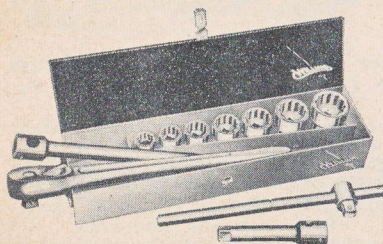


SET No. X-1—In Metal Case

No. C-X-1 Case Only — 29 1/4 x 8 x 4 1/4"

Contains 12 Supersockets® with 12-point openings, 1-1/16, 1-1/8, 1-1/4, 1-7/16, 1-1/2, 1-5/8, 1-13/16, 1-7/8, 2, 2-3/16, 2-1/4 and 2-3/8".

6 Attachments—Sliding Handle and Adapter, Flex Handle, Reversible Ratchet and 2 Extension Bars.

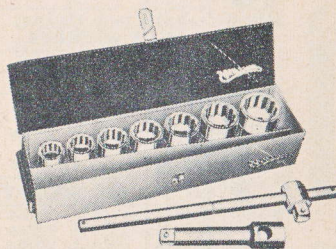


SET No. X-3—In Metal Case

No. C-X-3 Case Only — 29 1/4 x 8 x 4 1/4"

Contains 7 Supersockets® with 12-point openings, 1-1/4, 1-7/16, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".

5 Attachments—Sliding Handle and Adapter, Reversible Ratchet and 2 Extension Bars.



SET No. X-2—In Metal Case

No. C-X-2 Case Only — 20 3/4 x 5 1/4 x 4 1/4"

Contains 7 Supersockets® with 12-point openings, 1-1/4, 1-7/16, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".

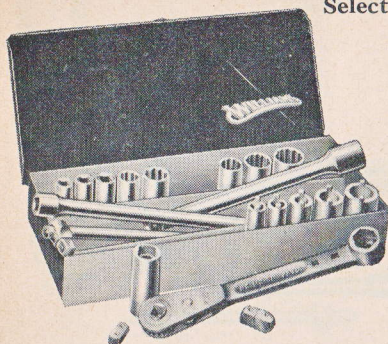
3 Attachments — Sliding Handle, Adapter and Extension Bar.



WILLIAMS' REFRIGERATION SERVICE TOOLS

Selected Alloy Steel

REFRIGERATION RATCHETS



SET No. R-19A In Metal Case

No. C-R-19A Case Only — $7\frac{3}{4} \times 3\frac{1}{2} \times 1\frac{1}{4}$ "

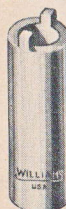
CONTENTS



M-406
to
M-812



MR-15



MR-2
to
MR-10



B-1214
to
B-1218

No.	Opng.	Nose Dia.
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1/4" SQ. DR. SOCKETS

M-406	3/16	7/16
M-407	7/32	15/32
M-408	1/4	1/2
M-810	5/16	9/16
M-812	3/8	11/16

KEROTEST PACKING NUT SOCKET

MR-15	1/2x3/8	5/8
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PACKING GLAND NUT SOCKETS

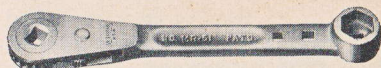
No.	Size Prongs	
	Depth	Width

MR-2	3/32	5/64
MR-4	3/32	1/8
MR-6	3/32	7/64
MR-8	1/8	1/8
MR-10	3/32	5/64

3/8" SQ. DR. SOCKETS

B-1214	7/16	39/64
B-1216	1/2	11/16
B-1218	9/16	49/64

No.	Handle or Part
MR-51	Reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" sq. openings and 1/2" hex opening in handle.
M-20A	Sliding T Handle—4-1/2" long.
B-110	Extension—5-1/2" long.
M-115	Extension—6" long.
M-150	Plug Adapter—both ends 1/4" sq. male.
BM-150	Adapter—3/8" sq. male and 1/4" sq. male.



No. MR-51

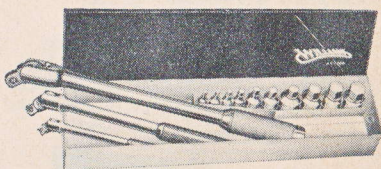
This 6" drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems.



No. B-51A

Reversible Ratchet with both 3/8" square male and 1/4" square female ratchet drive. Also has 3/16" and 1/4" square drive holes in handle end.

HOLLOW SCREW SOCKET BIT SET



Set No. AL-102A—In Metal Case

No. C-AL-102A Case Only — $12\frac{1}{2} \times 3\frac{3}{4} \times 2\frac{1}{8}$ "

CONTENTS

No.	Handle
M-42	Flex Handle, 1/4" Sq. Dr., 5-3/4" long
B-40	Flex Handle, 3/8" Sq. Dr., 8-1/2" long
S-40	Flex Handle, 1/2" Sq. Dr., 12" long

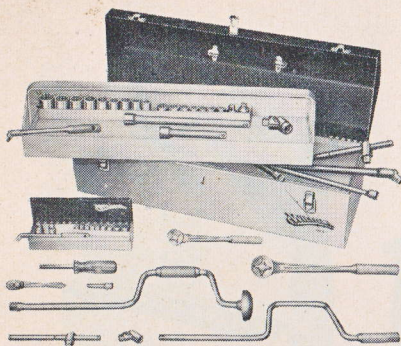
BITS—Also Sold Individually

Bit No.	Hex. Plug, Size	Sq. Dr.	For Hollow Screws	
			Set Screw	Cap Screw
AM-604	1/8	1/4	1/4	No. 8
AM-605	5/32	1/4	5/16	10 & 12
AM-606	3/16	1/4	3/8	1/4
AM-607	7/32	1/4	7/16	5/16
AB-608	1/4	3/8	1/2 & 9/16	
AB-610	5/16	3/8	5/8	3/8 & 7/16
AS-612	3/8	1/2	3/4	1/2 & 9/16
AS-616	1/2	1/2	7/8	5/8
AS-618	9/16	1/2	1 & 11/8	3/4 & 7/8
AS-620	5/8	1/2	1 1/4 & 1 3/8	1



WILLIAMS' SUPERSOCKET® SETS

Selected Alloy Steel



SET No. MBS-1

1/4, 3/8 and 1/2" Square Drives
In Hip-Roof Metal Case

No. C-MBS-1 Case Only—23¼ x 7½ x 9¼"

CONTENTS

SUPERSOCKETS®

9 Midget Pattern—with 3/16, 7/32, 1/4, 9/32" 6-point openings and 5/16, 11/32, 3/8, 7/16, 1/2" 12-point openings.

7 Bantam Pattern—with 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4" 12-point openings.

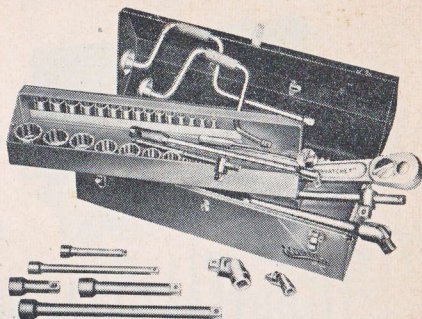
9 Standard Pattern—with 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 and 1" 12-point openings.

ATTACHMENTS

6 Midget Pattern—M-42, M-51, M-102, M-106, MB-130 and MB-131.

9 Bantam Pattern—B-15, B-20A, B-40, B-52, B-110, B-115, BS-130, BS-131 and B-140.

7 Standard Pattern—S-15, S-20A, S-41, S-52, S-110P, S-115P and S-140.



SET No. SH-10A

1/2 and 3/4" Square Drives
In Hip-Roof Metal Case

No. C-SH-10A Case Only - 23¼ x 7½ x 9¼"

CONTENTS

SUPERSOCKETS®

15 Standard Pattern—with 3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 21/32, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32 and 1" 12-point openings.

10 Heavy Duty Pattern—with 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16 and 1-5/8" 12-point openings.

ATTACHMENTS

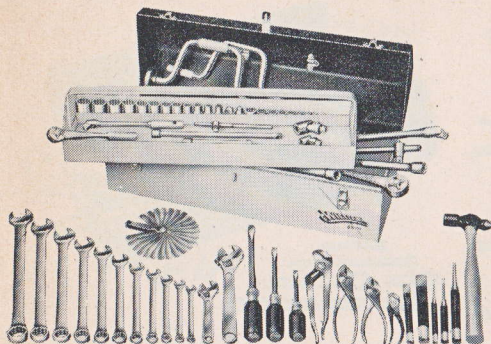
8 Standard Pattern—Nos. S-10, S-15, S-20A, S-41, S-52, S-110P, S-115P and S-140.

7 Heavy Duty Pattern—Nos. H-20A, H-41, H-51, H-104, H-110, H-115 and H-140.



WILLIAMS' SUPERSOCKET® SETS

Selected Alloy Steel



SET No. GS-101

In Hip-Roof Metal Case

No. C-GS-101 Case Only— $23\frac{1}{4} \times 7\frac{1}{2} \times 9\frac{1}{4}$ "

CONTENTS

SUPERSOCKETS®

- 9 Bantam Pattern—1 6-point opening $1/4$ "; 8 with 12-point openings, $5/16$ to $3/4$ ".
- 12 Standard Pattern—11 Regular with 12-point openings, $3/8$ to 1"; 1 Extra Deep 12-point opening, $13/16$ ".

ATTACHMENTS

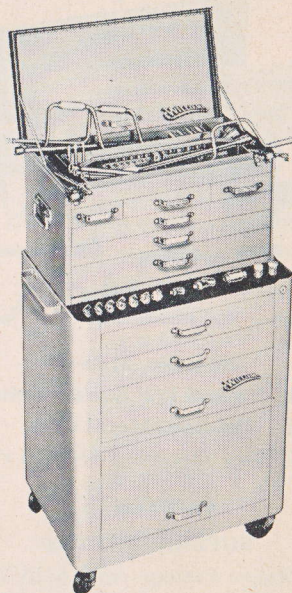
- 9 Bantam Pattern—B-15, B-20A, B-40, B-52, B-110, B-115, BS-130, BS-131 and B-140.
- 7 Standard Pattern—S-15, S-20A, S-41, S-52, S-110P, S-115P, S-140.

WRENCHES

- 11 Open End-Box Superwrenches® openings $3/8$ to 1".
- 2 Locking Adjustables—6" and 10".

MISCELLANEOUS TOOLS

- 4 Pliers—No. 6, 8, 1519A and 1520A.
- 3 Cushion Grip Screw Drivers—Nos. 4G, 6G and 8G.
- 2 Chisels—Nos. C-16 and C-24.
- 3 Punches—Nos. P-4, P-6 and P-8.
- 1 Ball Pein Hammer—No. 2-0.
- 1 Feeler Gauge Set—No. GS-1.



MOBILE TOOL CABINET

Made of heavy gauge steel with four 4" ball-bearing rubber-tired casters, two with side brakes.

Fitted with cylinder lock, tempered Masonite top and brass name plate, on which owner's name will be engraved free of charge. Finished in Williams orange enamel.

Overall size— $17-3/4$ " deep x 26" wide x 32" high.

No.	Description
TC-100	Mobile Tool Cabinet only
TC-200	Mobile Tool Cabinet with No. 1001A Tool Assortment without "Superchest" (See Page 33 for contents)
TC-300	Mobile Tool Cabinet with No. 2001A Tool Assortment without "Superchest" (See Page 35 for contents)
TC-400	Mobile Tool Cabinet with No. 1001A Tool Assortment complete with "Superchest" (See Page 33 for contents)
TC-500	Mobile Tool Cabinet with No. 2001A Tool Assortment complete with "Superchest" (See Page 35 for contents)

WILLIAMS' SUPERSOCKET® SETS

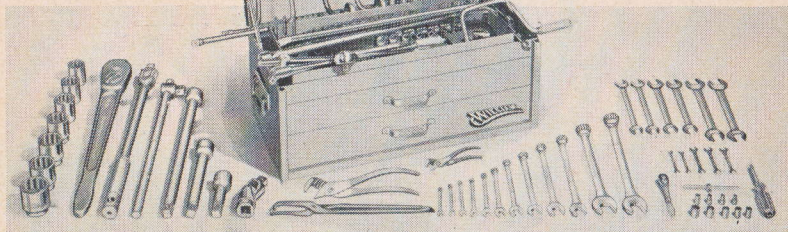
Selected Alloy Steel

No. 1001A "SUPERCHEST"

44 Sockets
32 Attachments
26 Wrenches, etc.
In Metal Chest

No. C-1001A 2 Drawer Metal Chest Only 22-1/2 x 10 x 10-1/4"

Brass nameplate with
owner's name furnished
free of charge.



CONTENTS

This "Superchest" is constructed of heavy gauge steel adequately reinforced and welded. Removable "tote" tray has convenient compartments in which to keep sockets.

SUPERSOCKETS®

- 9 Midget Pattern—4 6-point openings 3/16 to 9/32"; 5 12-point openings 5/16 to 1/2".
- 8 Bantam Pattern—7 Regular with 12-point openings 3/8 to 3/4"; 1 Extra Deep with 13/16" 12-point opening.
- 20 Standard Pattern—16 Regular with 12-point openings 3/8 to 1"; 4 Extra Deep with 12-point openings 11/16 to 1".
- 7 Heavy Duty Pattern—with 12-point openings 1-1/16 to 1-5/8".

SUPERSOCKET® ATTACHMENTS

- 3 Midget Pattern—Nos. M-20A, M-51 and M-106.
- 11 Bantam Pattern—Nos. B-15, B-20A, B-40, B-52, B-108, B-110, B-115, B-140, BP-2, BP-3 and BP-4.
- 11 Standard Pattern—Nos. S-10, S-15, S-20A, S-41, S-52, S-110P, S-115P, S-121P, S-140, SB-30 and SB-40.
- 7 Heavy Duty Pattern—Nos. H-20A, H-41, H-51, H-104, H-110, H-115 and H-140.

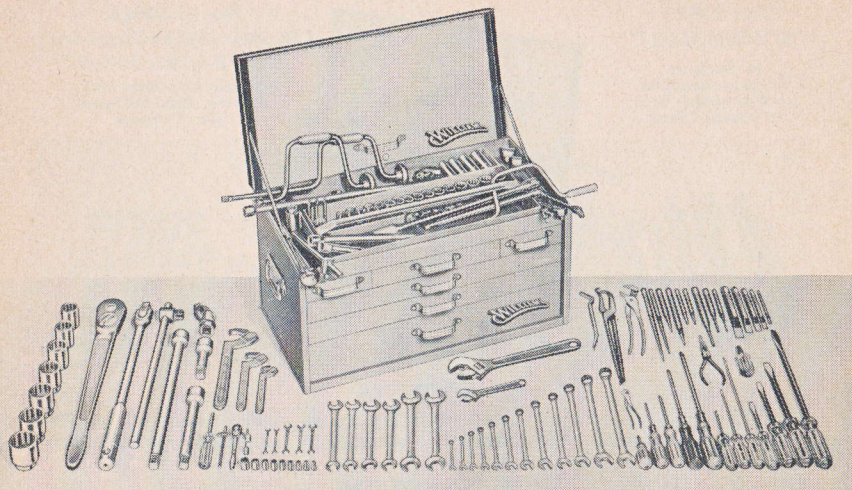
SUPERRENCHES®

- 6 Tappet Pattern—2 each Nos. 1090D, 1092F and 1094 with 1/2, 9/16, 5/8, 11/16, 3/4 and 7/8" openings.
- 5 Midget Pattern—15° angle openings 13/64 to 3/8".
- 12 Open End-Box Pattern—openings 5/16 to 1".

PLIERS

- 1 1517 Pliers for brake-shoe springs, 13" long.
- 1 1519A Rib-Joint Ignition Pliers, 5" long.
- 1 1520A Rib-Joint Utility Pliers, 10" long.

WILLIAMS' SUPERSOCKET® SETS
Selected Alloy Steel



No. 2001A "SUPERCHEST"
51 Sockets, 37 Attachments and 63 Wrenches, in Metal Chest

No. C-2001A
6-Drawer Metal Chest Only — 25 x 12-1/2 x 14-1/2"

Williams 2001 "SupercHEST" is a superbly complete set of tools—a miniature tool room. A wide range of Supersockets® with Attachments in 1/4, 3/8, 1/2 and 3/4" drives gives the operator an extremely flexible wrench system. Additional Superrenches®, pliers, chisels, screw drivers, etc. make this set remarkably versatile.

This smartly designed "SupercHEST" is constructed of heavy gauge steel adequately reinforced and welded. It is built to last a lifetime. Drawers operate on free acting suspension slides. Removable "tote" tray has convenient compartments in which to keep sockets. Heavy duty handles provide for transportation. A cylinder lock on the hinged front panel securely locks the entire chest. Finished in bright Williams orange enamel.

An individual heavy brass nameplate, on which the owner's name will be engraved free of charge, is furnished with each chest.



WILLIAMS' SUPERSOCKET® SETS
Selected Alloy Steel
Contents - "SUPERCHEST" No. 2001A

SUPERSOCKETS®

- 9 Midget Pattern:—4 6-point openings, 3/16 to 9/32"; 5 12-point openings 5/16 to 1/2".
- 15 Bantam Pattern:—7 Regular with 12-point openings 3/8 to 3/4"; 1 Extra Deep with 13/16" 12-point opening; 7 Universals with 12-point openings 3/8 to 3/4".
- 20 Standard Pattern:—16 Regular with 12-point openings 3/8 to 1"; 4 Extra Deep with 12-point openings 11/16 to 1".
- 7 Heavy Duty Pattern:—12-point openings 1-1/16 to 1-5/8".

SUPERSOCKET® ATTACHMENTS

- 5 Midget Pattern:—Nos. M-20A, M-51, M-106, MP-1 and MP-2.
- 12 Bantam Pattern:—Nos. B-15, B-20A, B-40, B-52, B-108, B-110, B-115, B-140, BP-2, BP-3, BP-4 and BS-130.
- 13 Standard Pattern:—Nos. S-10, S-15, S-20A, S-41, S-52, S-55, S-110P, S-115P, S-121P, S-140, SB-30, SB-40 and SH-130.
- 7 Heavy Duty Pattern:—Nos. H-20A, H-41, H-51, H-104, H-110, H-115 and H-140.

SUPERRENCHES®

- 6 Tappet Pattern:—2 each Nos. 1090D, 1092F and 1094 with 1/2, 9/16, 5/8, 11/16, 3/4 and 7/8" openings.
- 5 Midget Pattern:—15° angle openings 13/64 to 3/8".
- 12 Open End-Box Pattern:—openings 5/16 to 1".
- 3 Adjustable Hook Spanners:—for circles 3/4 to 4-3/4".
- 1 Special "Superrench":—for Star Nut, etc.—Bendix Hydraulic.

SUPERJUSTABLES®

- 2 One each—6" and 12"—Capacity 0 to 1-5/16".

PLIERS

- 1 No. 6 Combination Slip-Joint Pliers, 6" long.
- 1 No. 46 Diagonal Cutting Pliers, 6" long.
- 1 No. 76 Needle Nose Side Cutting Pliers, 6" long.
- 1 1517 Pliers for brake-shoe springs, 13" long.
- 1 1519A Rib-Joint Ignition Pliers, 5" long.
- 1 1520A Rib-Joint Utility Pliers, 10" long.

REGULAR SCREW DRIVERS

- 4 Square Blades—4, 6, 8 and 12" long.
- 3 Round Blades—3, 6 and 10" long.
- 1 Regular Stubby—Blade, 1-1/2" long.

PHILLIPS SCREW DRIVERS

- 5 Including Stubby—fit entire range of Phillips Screws.

PUNCHES AND CHISELS

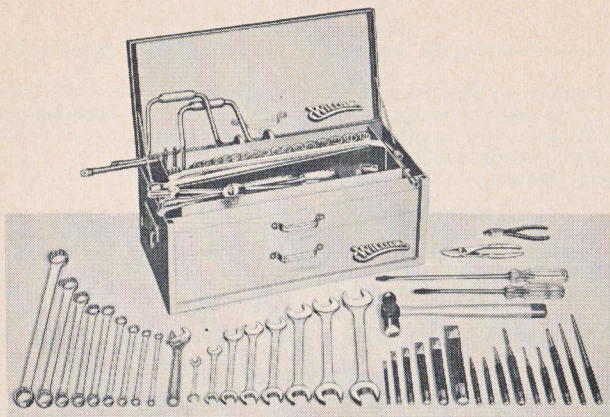
- 3 Pin Punches—with points 1/8, 3/16 and 1/4".
- 2 Solid Punches—with points 3/32 and 1/8".
- 2 Long Taper Punches—with points 5/32 and 3/16".
- 1 Prick Punch—5" long.
- 1 Center Punch—5" long.
- 5 Cold or Flat Chisels—4-3/4 to 7" long.

BALL PEIN HAMMER

- 1 No. 2-0 Ball Pein Hammer, 3/4 lb., 13-1/2" long.



WILLIAMS' SUPERSOCKET® SETS
Selected Alloy Steel
FOR GENERAL DIESEL ENGINE SERVICE



SET No. DLS-70

30 Sockets, 15 Attachments and 38 Wrenches, in Metal Chest.

No. C-DLS-70, 2-Drawer Steel Chest Only — 22½ x 10 x 10¼"

CONTENTS

SUPERSOCKETS®

18 Standard Pattern—with 3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8, 1-3/16 and 1-1/4" 12-point openings.

12 Heavy Duty Pattern—with 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2 and 1-5/8" 12-point openings.

SUPERSOCKET® ATTACHMENTS

8 Standard Pattern—Nos. S-10, S-15, S-20A, S-41, S-52, S-110P, S-115P and S-140.

7 Heavy Duty Pattern—Nos. H-20A, H-41, H-41B, H-104, H-110, H-115 and H-140.

PUNCHES AND CHISELS

3 Pin Punches—with points 1/8, 3/16 and 1/4". 2 Solid Punches—with points 3/32 and 1/8". 2 Long Taper Punches—with points 5/32 and 3/16".

SUPERRENCHES®

10 15° Angle Offset-Box Pattern—with 3/8 x 7/16, 7/16 x 1/2, 1/2 x 9/16, 9/16 x 5/8, 5/8 x 3/4, 11/16 x 3/4, 3/4 x 7/8, 15/16 x 1, 1-1/16 x 1-1/8 and 1-1/16 x 1-1/4" openings.

8 15° Angle Double Head Engineers' Pattern—with 3/8 x 7/16, 1/2 x 9/16, 5/8 x 3/4, 11/16 x 25/32, 3/4 x 7/8, 15/16 x 1, 1-1/16 x 1-1/8 and 1-1/8 x 1-1/4" openings.

SCREW DRIVERS - PLIERS - ETC.

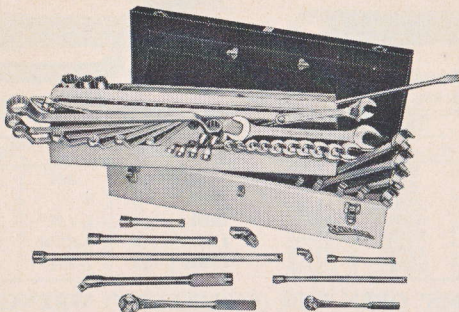
2 Screw Drivers—with round blades 8 and 12" long. 1 Side Cutting Pliers—7" long. 1 Diagonal Cutting Pliers—6" long. 1 Ball Pein Hammer—No. 2—1-1/2 lbs. 1 8" "Superjustable" Wrench.

PUNCHES AND CHISELS

1 Prick Punch—5" long. 1 Center Punch—5" long. 6 Cold or Flat Chisels—4-3/4 to 8" long.



WILLIAMS' SUPERSOCKET® SETS
Selected Alloy Steel
FOR GENERAL DIESEL ENGINE SERVICE



SET No. DLM-52

For Diesel Engine Mechanics
In Hip-Roof Metal Case

No. C-DLM-52

Metal Case Only — $23\frac{1}{4} \times 7\frac{1}{2} \times 9\frac{1}{4}$ "

CONTENTS

Contains 5 Bantam Supersockets® with 12-point openings $3/8$ to $5/8$ "; 2 Bantam Universal Supersockets® with 12-point openings $1/2$ to $9/16$ "; 15 Standard Supersockets® with 12-point openings $3/8$ to $1-1/4$ "; 2 Standard Extra Deep Supersockets® with 12-point openings $1/2$ and $3/4$ ".

3 Bantam Attachments—Reversible Ratchet, Extension and Universal Joint; 6 Standard Attachments—Reversible Ratchet, Speeder, Flex Handle, 2 Extension Bars and Universal Joint.

9 Engineers' Pattern— 15° Angle, Double Head Superrenches® with openings $3/8 \times 7/16$ to $15/16 \times 1$ "; 5 Double Offset-Box Pattern Superrenches® with openings $1/2 \times 9/16$ to $7/8 \times 15/16$ ".

2 Pliers—Side Cutting and Diagonal Cutting; 2 Screw Drivers—8 and 12" blades; 1 8" Superjustable®.

SET No. DLP-65

For Diesel Engine Pipe Fitters
In Hip-Roof Metal Case

No. C-DLP-65

Metal Case Only — $23\frac{1}{4} \times 7\frac{1}{2} \times 9\frac{1}{4}$ "

CONTENTS

Contains 7 Bantam Supersockets® with 12-point openings $3/8$ to $3/4$ "; 3 Bantam Extra Deep Supersockets® with 12-point openings $1/2$ to $3/4$ "; 8 Standard Supersockets® with 12-point openings $3/8$ to $1-1/8$ "; 3 Standard Extra Deep Supersockets® with 12-point openings $3/4$ to $1-1/8$ "; 1 Standard Universal Supersocket® with $3/4$ " 12-point opening.

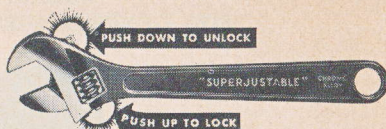
4 Bantam Attachments—Reversible Ratchet, Universal Joint and 2 Extension Bars; 6 Standard Attachments—Reversible Ratchet, Flex Handle, Universal Joint and 3 Extension Bars.

11 Engineers' Pattern— 15° Angle, Double Head Superrenches® with openings $3/8 \times 7/16$ to $1-1/16 \times 1-1/8$ "; 11 Double Offset-Box Pattern Superrenches® with openings $3/8 \times 7/16$ to $9/16 \times 5/8$ "; 8 Flare Nut Pattern Superrenches® with openings $9/16$ to $1-1/8$ ".

1 Side Cutting Pliers; 1 12" Screw Driver and 1 8" Superjustable®.

WILLIAMS' SUPERJUSTABLE® WRENCHES

Selected Alloy Steel — Industrial Black Finish



For Chrome-Plated Finish See Page 2.

REGULAR

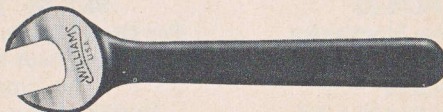
No.	Size	Capacity	Thickness Head	
			Tip of Jaws	Extreme
4B	4	1/2	9/64	5/16
6B	6	3/4	7/32	3/8
8B	8	1	17/64	1/2
10B	10	1-1/8	23/64	19/32
12B	12	1-5/16	15/32	23/32
15B	15	1-3/4	19/32	31/32
18B	18	2-1/16	23/32	1-3/16

LOCK-A-JUST

No.	Size	Capacity	Thickness Head	
			Tip of Jaws	Extreme
6BL	6	3/4	7/32	3/8
8BL	8	1	17/64	1/2
10BL	10	1-1/8	23/64	19/32
12BL	12	1-5/16	15/32	23/32
15BL	15	1-3/4	19/32	31/32

WILLIAMS' OPEN END (ENGINEERS') WRENCHES

Industrial Black Finish - Single Head—15° Angle



Drop-forged and heat-treated. Smooth finish, head faces bright. Wrenches No. 11 and larger have tapered handle. Handles can be bent above heads at angles of 45° to 90° from opening, at an additional charge.

No.	Nominal Opening	Thickness Head	Overall Length
S000	3/16	5/32	2 1/2
S00	1/4	3/16	2 7/8
00	5/16	3/16	3 5/8
700	3/8	7/32	4 1/8
0	13/32	7/32	4 1/8
701	7/16	1/4	4 3/4
1	1/2	1/4	4 3/4
702	9/16	9/32	5 5/8
2	19/32	9/32	5 5/8
703	5/8	5/16	6 1/2
3	11/16	5/16	6 1/2
704	3/4	11/32	7 3/8
4	25/32	11/32	7 3/8
705	13/16	13/32	8 3/8
5	7/8	13/32	8 3/8
6	15/16	15/32	9 1/2
706	1	15/32	9 1/2
7	1 1/16	17/32	10 3/4
707	1 1/8	17/32	10 3/4
8	1 1/4	5/8	12 1/4
8A	1 5/16	5/8	12 1/4
708A	1 3/8	5/8	12 1/4
9	1 7/16	11/16	13 7/8
709	1 1/2	11/16	13 7/8
10	1 5/8	3/4	15 1/2
10A	1 11/16	3/4	15 1/2

No.	Nominal Opening	Thickness Head	Overall Length
11	1 13/16	27/32	17 1/8
11A	1 7/8	27/32	17 1/8
12	2	29/32	18 7/8
12A	2 1/16	29/32	18 7/8
13	2 3/16	31/32	20 3/4
13A	2 1/4	31/32	20 3/4
14	2 3/8	1- 1/32	22 3/4
14A	2 7/16	1- 1/32	22 3/4
15	2 9/16	1- 1/8	24
15A	2 5/8	1- 1/8	24
16	2 3/4	1- 7/32	27
16B	2 13/16	1- 7/32	27
16A	2 15/16	1- 7/32	27
17A	3	1- 3/8	30
17	3 1/8	1- 3/8	30
18A	3 3/8	1-17/32	34
18	3 1/2	1-17/32	34
19B	3 3/4	1- 5/8	38
19	3 7/8	1- 5/8	38
19C	4 1/8	1- 5/8	38
19A	4 1/4	1- 5/8	38
20B	4 1/2	1- 7/8	42
20	4 5/8	1- 7/8	42
20A	5	1- 7/8	42
21A	5 3/8	2- 1/2	47
21B	5 3/4	2- 1/2	47
21C	6 1/8	2- 1/2	47
22A	6 7/8	3	52
22B	7 5/8	3	52



WILLIAMS' OPEN END (ENGINEERS') WRENCHES
Industrial Black Finish
Double Head—15° Angle



Drop-forged and heat-treated. Smooth finish, head faces bright.

No.	Nominal Openings	Thickness Head	Overall Length
721	5/16 & 3/8	7/32	4-1/8
21	5/16 & 13/32	7/32	4-1/8
722	5/16 & 7/16	1/4	4-1/2
723	3/8 & 7/16	1/4	4-1/2
723A	3/8 & 1/2	9/32	4-7/8
23	13/32 & 1/2	9/32	4-7/8
24	13/32 & 19/32	9/32	5-1/4
725	7/16 & 1/2	9/32	5-1/4
725A	7/16 & 9/16	9/32	5-1/4
725B	1/2 & 9/16	5/16	5-3/4
25	1/2 & 19/32	5/16	5-3/4
726	1/2 & 5/8	5/16	6-1/4
26	1/2 & 11/16	5/16	6-1/4
727	9/16 & 5/8	5/16	6-1/4
27C	9/16 & 11/16	11/32	6-3/4
27	19/32 & 11/16	11/32	6-3/4
27B	5/8 & 11/16	11/32	6-3/4
728	9/16 & 3/4	11/32	7-1/4
28	19/32 & 25/32	11/32	7-1/4
28S	5/8 & 25/32	11/32	7-1/4
729	5/8 & 3/4	11/32	7-1/4
29B	11/16 & 3/4	3/8	7-7/8
29	11/16 & 25/32	3/8	7-7/8
29C	11/16 & 13/16	3/8	7-7/8
730	5/8 & 13/16	13/32	8-1/2
30	11/16 & 7/8	13/32	8-1/2
731	3/4 & 13/16	7/16	9-1/8
731A	3/4 & 7/8	7/16	9-1/8
31B	25/32 & 13/16	7/16	9-1/8
31	25/32 & 7/8	7/16	9-1/8
731B	13/16 & 7/8	7/16	9-1/8
32B	13/16 & 15/16	15/32	10
33A	7/8 & 15/16	15/32	10
733	7/8 & 1	15/32	10
33C	15/16 & 1	15/32	10
34	7/8 & 1-1/16	17/32	11
34A	15/16 & 1-1/16	17/32	11
35	31/32 & 1-1/16	17/32	11
735	1 & 1-1/8	17/32	11

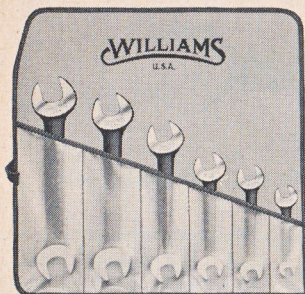
No.	Nominal Openings	Thickness Head	Overall Length
36B	1 1/16 & 1 1/8	19/32	12 3/8
37	1 1/16 & 1 1/4	19/32	12 3/8
737	1 1/8 & 1 1/4	19/32	12 3/8
37A	1 1/8 & 1 5/16	19/32	12 3/8
39B	1 1/4 & 1 5/16	21/32	14
39	1 1/4 & 1 7/16	21/32	14
39A	1 5/16 & 1 1/2	21/32	14
39C	1 5/8 & 1 7/16	21/32	14
40	1 1/4 & 1 5/8	3/4	15 3/4
41	1 1/16 & 1 5/8	3/4	15 3/4
41B	1 1/2 & 1 5/8	3/4	15 3/4
42	1 1/16 & 1 13/16	7/8	17
42A	1 1/2 & 1 11/16	7/8	17
43	1 5/8 & 1 13/16	7/8	17
44	1 5/8 & 2	15/16	19
44A	1 11/16 & 1 7/8	15/16	19
45	1 11/16 & 2	15/16	19
45A	1 7/8 & 2 1/16	15/16	19
47	2 & 2 3/16	1	21
47B	2 1/16 & 2 1/4	1	21
48	2 & 2 3/8	1- 1/16	23
49	2 3/16 & 2 3/8	1- 1/16	23
49A	2 1/4 & 2 7/16	1- 1/16	23
51	2 5/8 & 2 9/16	*1- 1/8	25
51A	2 7/16 & 2 5/8	*1- 1/8	25
53	2 9/16 & 2 3/4	*1- 7/32	27
53A	2 5/8 & 2 13/16	*1- 7/32	27
54C	2 3/4 & 2 15/16	*1- 3/8	30
55A	2 11/16 & 3	*1- 3/8	32
55B	2 15/16 & 3 1/16	*1- 3/8	32
57B	3 & 3 3/8	*1-17/32	36
57	3 1/8 & 3 1/2	*1-17/32	36
58A	3 3/8 & 3 3/4	*1- 5/8	38
58	3 1/2 & 3 7/8	*1- 5/8	38
60A	3 3/4 & 4 1/8	1- 5/8	40
60	3 7/8 & 4 1/4	1- 5/8	40
62A	4 1/8 & 4 1/2	*1- 7/8	43
62	4 1/4 & 4 5/8	*1- 7/8	43
63A	4 5/8 & 5	1- 7/8	47
64A	5 & 5 3/8	*2- 1/2	47

* Large head only. Small head slightly thinner

WILLIAMS' OPEN END (ENGINEERS') WRENCH SETS

Industrial Black Finish

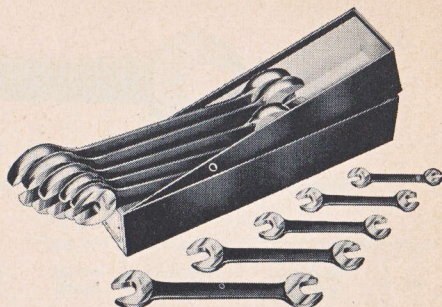
Double Head—15° Angle



SET No. 25BR **SET No. 25BB**
In Leatherette Roll In Cardboard Box

CONTENTS

One each Nos. 723, 725B, 729, 29C, 733 and 34A with all popular openings 3/8" to 1-1/16".



SET No. 10AB
In Cardboard Box

CONTENTS

One each Nos. 723, 25, 727, 29, 731, 33A, 735, 37, 39A and 39C with openings 3/8" to 1-1/2"

WILLIAMS' SET SCREW WRENCHES

Industrial Black Finish

Single Head—22-1/2° Angle

Double Head—22-1/2° Angle



For Set Screws, Square Cap Screws and Nuts

Drop-forged and heat-treated. Smooth finish, head faces bright.

No.	Nominal Opening	Thickness Head	Overall Length
500	3/16	7/32	3
501	1/4	9/32	3 1/2
502	5/16	11/32	4 1/4
503	3/8	3/8	5
504	7/16	13/32	5 3/4
505	1/2	15/32	6 5/8
506	9/16	17/32	7 1/2
507	5/8	19/32	8 1/2
508	3/4	21/32	9 1/2
509	7/8	23/32	10 1/2
510	1	25/32	11 1/2
511	1 1/8	27/32	12 1/2

No.	Nominal Openings	Thickness Heads	Overall Length
523	3/16 & 1/4	1/4	3 1/2
524	3/16 & 5/16	5/16	4 1/4
525	1/4 & 5/16	5/16	4 1/4
526	1/4 & 3/8	3/8	5
527	5/16 & 3/8	3/8	5
529	3/8 & 7/16	13/32	5 3/4
530	3/8 & 1/2	15/32	5 7/8
531	7/16 & 1/2	15/32	5 7/8
533	1/2 & 9/16	17/32	7 1/2
534	1/2 & 5/8	19/32	8 1/2
535	9/16 & 5/8	19/32	8 1/2
537	5/8 & 3/4	21/32	9 3/4
539	3/4 & 7/8	23/32	9 11/16
541	7/8 & 1	25/32	12 1/2
543	1 & 1 1/8	27/32	14



WILLIAMS' CHECK NUT WRENCHES

Industrial Black Finish

Single Head—15° Angle

Double Head—15° Angle



For Check, Jam or Lock Nuts, etc.

Drop-forged and heat-treated. Smooth finish, head faces bright.

This class of Wrench is guaranteed amply strong for its intended purpose, but is not designed for severe service.

No.	Nominal Opening	Thickness Head	Overall Length
601A	7/16	5/32	4
601	1/2	5/32	4
602A	9/16	11/64	4 1/2
602	19/32	11/64	4 1/2
603A	5/8	3/16	5 1/16
603	11/16	3/16	5 1/16
604A	3/4	7/32	5 15/16
604	25/32	7/32	5 15/16
605A	13/16	1/4	6 11/16
605	7/8	1/4	6 11/16
606	15/16	9/32	7 1/2
606B	1	9/32	7 1/2
607	1 1/16	5/16	8 1/2
607A	1 1/8	5/16	8 1/2
608	1 1/4	3/8	10
608A	1 5/16	3/8	10
609	1 7/16	7/16	11 5/8
609A	1 1/2	7/16	11 5/8
610	1 5/8	1/2	13 1/4
610A	1 11/16	1/2	13 1/4

No.	Nominal Openings	Thickness Heads	Overall Length
623	13/32 & 1/2	5/32	4 5/8
623D	7/16 & 1/2	5/32	4 5/8
624A	7/16 & 9/16	5/32	4 3/4
624B	1/2 & 9/16	5/32	4 3/4
625	1/2 & 19/32	5/32	4 3/4
626S	9/16 & 5/8	3/16	6
627	19/32 & 11/16	3/16	6
629D	5/8 & 3/4	3/16	6 3/4
629	11/16 & 25/32	3/16	6 3/4
630	11/16 & 7/8	7/32	7 1/2
630B	3/4 & 13/16	7/32	7 1/2
630E	3/4 & 7/8	7/32	7 1/2
631	25/32 & 7/8	7/32	7 1/2
631A	13/16 & 7/8	7/32	7 1/2
632C	7/8 & 15/16	1/4	8 7/8
634A	7/8 & 1	1/4	8 7/8
634	7/8 & 1 1/16	1/4	8 7/8
632X	15/16 & 1	1/4	8 7/8
634B	15/16 & 1 1/16	1/4	8 7/8
635D	1 & 1 1/8	9/32	10 1/2
637	1 1/16 & 1 1/4	9/32	10 1/2
637A	1 1/8 & 1 5/16	9/32	10 1/2
639	1 1/4 & 1 7/16	3/8	12 1/2
640	1 1/4 & 1 5/8	3/8	12 1/2
640A	1 5/16 & 1 1/2	3/8	12 1/2



WILLIAMS' CONSTRUCTION WRENCHES

15° Angle—Straight Handle



Deep opening provides substantial bearing on hex and square nuts. The long handle is round for the greater part of its length, with tapered end.

Drop-forged and heat-treated. Smooth shot-blasted finish.

No.	Nominal Opening	Thickness Head	Overall Length
201A	7/16	11/32	9 1/2
201	1/2	11/32	9 1/2
201B	9/16	11/32	9 1/2
202	19/32	11/32	9 1/2
203A	5/8	7/16	12
203	11/16	7/16	12
204A	3/4	7/16	12
204	25/32	7/16	12
205A	13/16	17/32	14 1/2
205	7/8	17/32	14 1/2
206	15/16	17/32	14 1/2
206B	1	17/32	14 1/2
207	1 1/16	5/8	17
207A	1 1/8	5/8	17
208	1 1/4	11/16	19
208A	1 5/16	11/16	19
209	1 7/16	3/4	21
209A	1 1/2	3/4	21
210	1 5/8	27/32	23
210A	1 11/16	27/32	23
211	1 13/16	15/16	25
211A	1 7/8	15/16	25
212	2	15/16	25

15° Angle—45° Bent Handle



Particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment.

Drop-forged and heat-treated. Smooth shot-blasted finish.

No.	Nominal Opening	Thickness Head	Overall Length
X-205A	13/16	17/32	14
X-205	7/8	17/32	14
X-206	15/16	17/32	14
X-206B	1	17/32	14
X-207	1 1/16	5/8	16 1/2
X-207A	1 1/8	5/8	16 1/2
X-208	1 1/4	11/16	18 1/2
X-208A	1 5/16	11/16	18 1/2
X-209	1 7/16	3/4	20 3/8
X-209A	1 1/2	3/4	20 3/8
X-210	1 5/8	27/32	22 1/4
X-210A	1 11/16	27/32	22 1/4
X-211	1 13/16	15/16	24
X-211A	1 7/8	15/16	24
X-212	2	15/16	24

15° Angle—90° Bent Handle



No.	Nominal Opening	Thickness Head	Overall Length
Z-205A	13/16	17/32	12
Z-205	7/8	17/32	12
Z-206	15/16	17/32	12
Z-206B	1	17/32	12
Z-207	1 1/16	5/8	14 5/8
Z-207A	1 1/8	5/8	14 5/8
Z-208	1 1/4	11/16	16 3/8
Z-208A	1 5/16	11/16	16 3/8
Z-209	1 7/16	3/4	17 7/8
Z-209A	1 1/2	3/4	17 7/8
Z-210	1 5/8	27/32	19 1/2
Z-210A	1 11/16	27/32	19 1/2
Z-211	1 13/16	15/16	21
Z-211A	1 7/8	15/16	21
Z-212	2	15/16	21



WILLIAMS' STRUCTURAL WRENCHES Straight Opening



Drop-forged and heat-treated shot-blasted finish. Handle is round for the most of its length, with tapered end.

No.	Nominal Opening	Thickness Head	Handle Offset At Head	Overall Length
901A	7/16	11/32	13/16	9 1/2
901	1/2	11/32	13/16	9 1/2
901B	9/16	11/32	13/16	9 1/2
902	19/32	11/32	13/16	9 1/2
903A	5/8	7/16	7/8	12
903	11/16	7/16	7/8	12
904A	3/4	7/16	7/8	12
904	25/32	7/16	7/8	12
905A	13/16	17/32	1	14 1/2
905	7/8	17/32	1	14 1/2
906	15/16	17/32	1	14 1/2
906B	1	17/32	1	14 1/2
907	1 1/16	5/8	1 1/8	17
907A	1 1/8	5/8	1 1/8	17
908	1 1/4	11/16	1 1/4	19
908A	1 5/16	11/16	1 1/4	19
909	1 7/16	3/4	1 3/8	21
909A	1 1/2	3/4	1 3/8	21
910	1 5/8	13/16	1 1/2	23
910A	1 11/16	13/16	1 1/2	23
911	1 13/16	7/8	1 5/8	25
911A	1 7/8	7/8	1 5/8	25
912	2	7/8	1 5/8	25

TOOL POST WRENCHES Industrial Black Finish For Set Screws



Drop-forged and heat-treated. Smooth finish, head faces bright.

No.	For Set Screw Size		Thickness Head	Overall Length
	Open End	Closed End		
554	7/16	7/16	1/2	5 1/2
555	1/2	1/2	9/16	6
555B	9/16	1/2	9/16	6
555C	9/16	9/16	9/16	6
556	5/8	5/8	5/8	7
556B	11/16	5/8	5/8	7
556C	11/16	11/16	5/8	7
557	3/4	3/4	11/16	7 5/8

WILLIAMS' HEAVY "S" or CAR WRENCHES Double Head—22-1/2° Angle



Drop-forged, heat-treated, smooth shot-blasted finish.

No.	Nominal Openings	Thickness Heads	Overall Length
367A	5/8 & 13/16	7/16	12
367	11/16 & 7/8	7/16	12
370C	13/16 & 7/8	1/2	19
370A	13/16 & 1	1/2	19
370	7/8 & 1 1/16	1/2	19
370B	1 & 1 1/8	1/2	19
372A	1 1/16 & 1 1/4	1/2	20
373	1 1/8 & 1 5/16	1/2	20
376A	1 1/4 & 1 7/16	9/16	21
376	1 5/16 & 1 1/2	9/16	21
378A	1 7/16 & 1 5/8	9/16	22
379	1 1/2 & 1 11/16	9/16	22
382A	1 5/8 & 1 13/16	5/8	23
382	1 11/16 & 1 7/8	5/8	23
383B	1 7/8 & 2 1/4	5/8	24
385	1 13/16 & 2	5/8	24
389	2 & 2 3/8	3/4	25
389B	2 3/16 & 2 3/8	3/4	25

SQUARE BOX WRENCHES Industrial Black Finish Single Head—22-1/2° Angle



No.	Nominal Opening	Thickness Head	Overall Length
580	3/16	1/4	3
581	1/4	9/32	3 3/8
582	5/16	5/16	3 3/4
583	3/8	3/8	4 1/4
584	7/16	7/16	4 7/8
585	1/2	15/32	5 1/2
586	9/16	1/2	6 1/4
587	5/8	9/16	7
588	3/4	5/8	8
589	7/8	11/16	9
590	1	3/4	10

8-point openings furnished to order.



WILLIAMS' HEX-BOX WRENCHES

Industrial Black Finish

Regular Pattern—15° Angle

Heavy Pattern—15° Angle



Drop-forged and heat-treated. Smooth finish, head faces bright.

Designed for use requiring an exceedingly strong tool and where head clearance is limited. Wrenches larger than No. 810 and H-809 have tapered handle.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

No.	Nominal Opening Across Flats	Head		Overall Length
		Thick-ness	Out-side Diam.	
800	13/32	7/32	45/64	3 1/2
801A	7/16	17/64	27/32	4
801	1/2	17/64	27/32	4
802A	9/16	5/16	61/64	4 7/8
802	19/32	5/16	61/64	4 7/8
803A	5/8	23/64	1 3/32	5 7/8
803	11/16	23/64	1 3/32	5 7/8
804A	3/4	13/32	1 1/4	6 7/8
804	25/32	13/32	1 1/4	6 7/8
805A	13/16	29/64	1 23/64	7 3/4
805	7/8	29/64	1 23/64	7 3/4
806	15/16	1/2	1 35/64	8 3/4
806B	1	1/2	1 35/64	8 3/4
807	1 1/16	9/16	1 25/32	9 7/8
807A	1 1/8	9/16	1 25/32	9 7/8
808	1 1/4	9/16	2 1/16	11 1/2
808A	1 5/16	9/16	2 1/16	11 1/2
809	1 7/16	21/32	2 3/8	13 3/8
809A	1 1/2	21/32	2 3/8	13 3/8
810	1 5/8	3/4	2 5/8	15 1/4
810A	1 11/16	3/4	2 5/8	15 1/4
811	1 13/16	13/16	2 29/32	17 1/8
811A	1 7/8	13/16	2 29/32	17 1/8
812	2	15/16	3 1/4	19
813	2 3/16	1	3 31/64	21
813A	2 1/4	1	3 31/64	21
814	2 3/8	1 1/16	3 23/32	23
815	2 9/16	1 1/8	4 3/32	25
815A	2 5/8	1 1/8	4 3/32	25
816	2 3/4	1 1/4	4 9/16	27
817A	3	1 3/8	4 53/64	30
817	3 1/8	1 3/8	4 53/64	30
818A	3 3/8	1 1/2	5 1/4	34
818	3 1/2	1 1/2	5 1/4	34
819B	3 3/4	1 5/8	5 7/8	38
819	3 7/8	1 5/8	5 7/8	38
819AC	4 1/8	1 3/4	6 1/2	42
819A	4 1/4	1 3/4	6 1/2	42
820B	4 1/2	1 7/8	7	46
820	4 5/8	1 7/8	7	46

No.	Nominal Openings Across Flats	Head		Overall Length
		Thick-ness	Outside Diam.	
H808	1 1/4	13/16	2 1/16	11 1/2
H808A	1 5/16	13/16	2 1/16	11 1/2
H809	1 7/16	15/16	2 3/8	13 3/8
H809A	1 1/2	15/16	2 3/8	13 3/8
H810	1 5/8	1 1/8	2 5/8	15 1/4
H810A	1 11/16	1 1/8	2 5/8	15 1/4
H811	1 13/16	1 1/4	2 15/16	17
H811A	1 7/8	1 1/4	2 15/16	17
H812	2	1 3/8	3 1/4	19
H813	2 3/16	1 1/2	3 1/2	21
H813A	2 1/4	1 1/2	3 1/2	21
H814	2 3/8	1 5/8	3 3/4	23
H815	2 9/16	1 3/4	4 1/8	25
H815A	2 5/8	1 3/4	4 1/8	25
H816	2 3/4	1 7/8	4 9/16	27
H817A	3	2	4 13/16	30
H817	3 1/8	2	4 13/16	30

Striking Face Pattern—15° Angle Industrial Black Finish



Designed for heavy work in close quarters where large nuts must be set up tight, or frozen nuts loosened.

No.	Nominal Opening Across Flats	Head		Overall Length
		Thick-ness	Out-side Dia.	
SF-818A	3 3/8	1 1/2	5 1/4	18
SF-818	3 1/2	1 1/2	5 1/4	18
SF-819B	3 3/4	1 5/8	5 7/8	19
SF-819	3 7/8	1 5/8	5 7/8	19
SF-819AC	4 1/8	1 3/4	6 1/2	20
SF-819A	4 1/4	1 3/4	6 1/2	20
SF-820B	4 1/2	1 7/8	7	21
SF-820	4 5/8	1 7/8	7	21

WILLIAMS' T-HANDLE SOCKET WRENCHES Industrial Black Finish

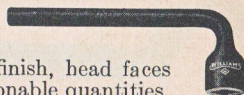


Drop-forged and heat-treated. Smooth finish, head faces bright. Special broaching to order in reasonable quantities.

Hexagon end of shank is designed for use in combination with another wrench. Pin can be removed by driving through.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

WILLIAMS' OFFSET SOCKET WRENCHES Industrial Black Finish



No.	Nominal Opening Across Flats	Diam. of Head	Overall Length
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HEXAGON OPENINGS

961A	5/16	1/2	4 1/4
962D	3/8	5/8	4 1/2
963A	13/32	11/16	4 7/8
963D	7/16	11/16	4 7/8
964A	1/2	3/4	5 1/4
965D	9/16	7/8	5 3/4
965A	19/32	7/8	5 3/4
966D	5/8	1	6 1/8
967A	11/16	1 1/8	6 1/2
967D	3/4	1 1/8	6 1/2
968A	25/32	1 1/4	7
968D	13/16	1 1/4	7
969A	7/8	1 3/8	7 3/8
970S	15/16	1 1/2	7 7/8
970D	1	1 1/2	7 7/8
971A	1 1/16	1 5/8	8 1/4
971D	1 1/8	1 5/8	8 1/4
973A	1 1/4	1 7/8	9 1/8
973B	1 5/16	1 7/8	9 1/8
975A	1 7/16	2 1/8	10
975D	1 1/2	2 1/8	10
976A	1 5/8	2 3/8	10 3/8
976B	1 11/16	2 3/8	10 3/8
977A	1 13/16	2 5/8	10 7/8
977B	1 7/8	2 5/8	10 7/8
978A	2	2 7/8	11 3/8
979A	2 3/16	3	11 7/8
979B	2 1/4	3	11 7/8
980A	2 3/8	3 5/16	12 1/2

SQUARE OPENINGS

961H	3/16	1/2	4 1/4
961J	1/4	1/2	4 1/4
962H	5/16	5/8	4 1/2
963H	3/8	11/16	4 7/8
965H	7/16	7/8	5 3/4
966H	1/2	1	6 1/8
967H	9/16	1 1/8	6 1/2
968H	5/8	1 1/4	7
968P	11/16	1 1/4	7
969H	3/4	1 3/8	7 3/8
971H	7/8	1 5/8	8 1/4
973H	1	1 7/8	9 1/8
974H	1 1/8	2	9 1/2
976H	1 1/4	2 3/8	10 3/8
977X	1 7/16	2 5/8	10 7/8
977P	1 1/2	2 5/8	10 7/8

No.	Nominal Opening Across Flats	Diam. of Head	Handle Offset in Clear from Face of Wrench	Overall Length
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HEXAGON OPENINGS

261A	5/16	1/2	13/16	3 3/8
262D	3/8	5/8	1	3 7/8
263A	13/32	11/16	1 1/16	4 5/16
263D	7/16	11/16	1 1/16	4 5/16
264A	1/2	3/4	1 1/4	5 1/8
265D	9/16	7/8	1 7/16	5 7/8
265A	19/32	7/8	1 7/16	5 7/8
266D	5/8	1	1 9/16	6 1/4
267A	11/16	1 1/8	1 5/8	6 3/4
267D	3/4	1 1/8	1 5/8	6 3/4
268A	25/32	1 1/4	1 13/16	7 1/2
268D	13/16	1 1/4	1 13/16	7 1/2
269A	7/8	1 3/8	2	8 3/8
270S	15/16	1 1/2	2 3/16	9 1/8
270D	1	1 1/2	2 3/16	9 1/8
271A	1 1/16	1 5/8	2 3/8	10
271D	1 1/8	1 5/8	2 3/8	10
273A	1 1/4	1 7/8	2 3/4	11 5/8
273B	1 5/16	1 7/8	2 3/4	11 5/8
275A	1 7/16	2 1/8	3 1/8	13 1/4
275D	1 1/2	2 1/8	3 1/8	13 1/4
276A	1 5/8	2 3/8	3 1/2	14 7/8
276B	1 11/16	2 3/8	3 1/2	14 7/8
277A	1 13/16	2 5/8	3 7/8	16 1/2
277B	1 7/8	2 5/8	3 7/8	16 1/2
278A	2	2 7/8	4 3/8	18 1/4
279A	2 3/16	3	4 7/8	20
279B	2 1/4	3	4 7/8	20
280A	2 3/8	3 5/16	5 3/8	21 3/4

SQUARE OPENINGS

261J	1/4	1/2	13/16	3 3/8
262H	5/16	5/8	1	3 7/8
263H	3/8	11/16	1 1/16	4 5/16
265H	7/16	7/8	1 7/16	5 7/8
266H	1/2	1	1 9/16	6 1/4
267H	9/16	1 1/8	1 5/8	6 3/4
268H	5/8	1 1/4	1 13/16	7 1/2
268P	11/16	1 1/4	1 13/16	7 1/2
269H	3/4	1 3/8	2	8 3/8
271H	7/8	1 5/8	2 3/8	10
273H	1	1 7/8	2 3/4	11 5/8
274H	1 1/8	2	2 7/8	12 3/8
276H	1 1/4	2 3/8	3 1/2	14 7/8

WILLIAMS' PIN SPANNERS

Industrial Black Finish



Pins are forged integral with wrench. Surfaces smoothed, pins milled, heat-treated.

No.	For Circle Diameter	Finished Diam. Pin	Overall Length
452	1	3/16	4
453	1 1/4	13/64	4 1/2
454	1 1/2	7/32	5
455	1 3/4	15/64	5 1/2
456	2	1/4	6
457	2 1/4	17/64	6 1/2
458	2 1/2	9/32	7
459	2 3/4	19/64	7 1/2
460	3	5/16	8
461	3 1/4	21/64	8 1/2
462	3 1/2	11/32	9
463	3 3/4	23/64	9 1/2
464	4	3/8	10
466	5	7/16	12
468	6	1/2	14

FACE SPANNERS

Industrial Black Finish



Pins are forged integral with wrench. Surfaces smoothed, pins milled, heat-treated.

No.	Pins			Length from Center of Pins
	Distance C to C	Diam. Milled	Length	
418	1	3/16	3/16	4 1/2
420	1 1/4	7/32	7/32	5
422	1 1/2	7/32	7/32	5 1/2
424	1 3/4	7/32	7/32	6
426	2	1/4	1/4	6 1/2
428	2 1/4	1/4	1/4	7
430	2 1/2	9/32	9/32	7 1/2
432	2 3/4	9/32	9/32	8
434	3	5/16	5/16	8 1/2
436	3 1/4	5/16	5/16	9 1/8
438	3 1/2	5/16	5/16	9 3/4
440	3 3/4	3/8	3/8	10 3/8
442	4	3/8	3/8	11

WILLIAMS' ADJUSTABLE FACE SPANNERS

Industrial Black Finish



A desirable and dependable tool for service where Center to Center dimensions vary. Pins milled, surfaces smooth, heat-treated.

No.	Extreme Capacity	Diameter of Pins	Overall Length
482	2	3/16	6 3/8
483	3	1/4	8 1/4
484	4	5/16	10 3/8

LIGHT HOOK SPANNERS



Not Machined

All Hooks 3/8" wide and 7/32" thick. † Length of handle can be varied.

No.	For Circle; Diameter	Hook Length	Diameter Handle	Overall †Length
491	1 3/16	1/16	3/8	6 1/2
493	1 3/4	1/8	3/8	7 1/2
494	2 1/8	1/8	3/8	8
495	2 1/2	1/8	3/8	8 1/4
496	2 3/4	1/8	3/8	8 1/2
497	3	1/8	3/8	8 3/4
498	3 1/2	1/8	3/8	9

FLAT HOOK SPANNERS



Not Machined

No.	Forgings for Circle; Diameter	Forgings will finish for Circles; Diam.	Thickness	Overall Length
403	1 1/4	1 to 1 1/4	7/32	4 3/4
404	1 1/2	1 3/8 to 1 5/8	1/4	6
405	2	1 3/4 to 2	1/4	7 1/8
406	2 1/4	2 1/8 to 2 3/8	1/4	8 7/16
407	2 5/8	2 1/2 to 2 3/4	1/4	9 3/4
408	3 1/8	2 7/8 to 3 1/4	5/16	11
409	3 3/4	3 3/8 to 3 7/8	5/16	12
410	4 3/8	4 to 4 1/2	5/16	13
412	5 3/4	5 1/4 to 5 3/4	7/16	15



WILLIAMS' ADJUSTABLE HOOK SPANNERS Industrial Black Finish



Drop-forged and heat-treated, surfaces smoothed. Especially serviceable on spindle bearings of lathes, milling machines and grinding machines.

No.	Capacity for Circles; Diameter	Thick-ness Hook	Depth Hook	Overall Length
471	3/4 to 2	11/32	1/8	6 3/8
472	1 1/4 to 3	13/32	5/32	8 1/8
474	2 to 4 3/4	15/32	3/16	11 3/8
474A	4 1/2 to 6 1/4	15/32	1/4	12 1/8

WILLIAMS' ADJUSTABLE HOOK SPANNERS Industrial Black Finish With Round Pins



Used for adjusting collars, lock nuts, rings, etc., used on various types of machine tool equipment. Drop-forged and heat-treated, surfaces smoothed.

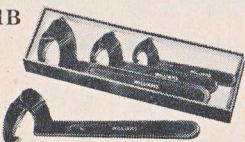
No.	For Circles, Diameter	Thick. Hook	Pin Size		Overall Length
			Diam.	Lgth.	
O-471	3/4 to 2	11/32	1/8	1/8	6-3/8
O-471A	3/4 to 2	11/32	3/16	5/32	6-3/8
O-472	1-1/4 to 3	13/32	3/16	3/16	8-1/8
O-472A	1-1/4 to 3	13/32	1/4	7/32	8-1/8
O-474	2 to 4-3/4	15/32	1/4	1/4	11-3/8
O-474A	4-1/2 to 6-1/4	15/32	3/8	1/4	12-1/8

ADJUSTABLE HOOK SPANNERS

SET No. 401B

In
Cardboard
Box

One each,
Nos. 471, 472,
474 and 474A.



HOOK SPANNERS Industrial Black Finish

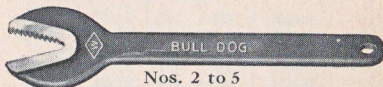


Made especially to service Face Plate Draw Nuts used on taper-nose spindles for new design lathes. Very efficient; also, for general work. Supplied with bearing pads and hook machined. Drop-forged and heat-treated.

* Can be furnished to order for circle 1/8" larger.

No.	For Circle; Diameter	For Lathe Spindle No.	Thick-ness, Hook End	Overall Length
410LS	4 15/32	00	5/16	13
412LS	5 1/2	0	7/32	15
414	* 7 3/8	1	5/8	20
415	* 9 1/4	2	11/16	23 1/4
416	*12 1/2	3	3/4	30 3/4

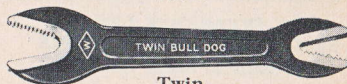
BULL DOG WRENCHES Industrial Black Finish



Nos. 2 to 5



No. 1



Twin

Designed for all-around service, these wrenches will grip round, square, hexagon or any shape that will fit between their tough jaws.

Drop-forged and heat-treated.

No.	Capacity		Overall Length
	Pipe	Rounds	
1	1/8 to 3/8	1/4 to 3/4	5-1/2
2	1/4 to 3/4	1/2 to 1	9
2-1/2	3/8 to 1	5/8 to 1-1/4	12-1/2
3	1/2 to 1-1/4	3/4 to 1-1/2	16
3-1/2	1/2 to 1-1/2	3/4 to 1-3/4	18-3/4
4	3/4 to 2	1 to 2-1/4	22
4-1/2	1 to 2-1/2	1-1/4 to 2-3/4	24
5	2 to 3	2-1/4 to 3-1/2	27
Twin	1/8 to 3/4	5/16 to 1	10

"O" SERIES—1/4 Inch Square Drive—POWER DRIVE SOCKETS For All Types of Power Wrenches

1/4"



Standard Length—Thin Wall



Bolt Clearance Length



Standard Length
For Hardened
and
Self-Tapping
Screws



Standard Length
Magnetic
For Hardened and
Self-Tapping
Screws

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH—THIN WALL SINGLE HEXAGON OPENINGS

Industrial Black Finish

3/16	30-606	.435	.295	27/32	3/16
7/32	30-607	.435	.330	27/32	13/64
1/4	30-608	.435	.367	27/32	7/32
9/32	30-609	.435	.411	27/32	15/64
5/16	30-610	.435	.453	27/32	1/4
11/32	30-611	.490	.490	27/32	9/32
3/8	30-612	.526	.526	27/32	5/16
7/16	30-614	.606	.606	27/32	9/32
1/2	30-616	.674	.674	27/32	21/64

BOLT CLEARANCE LENGTH SINGLE HEXAGON OPENINGS

Industrial Black Finish

1/4	10-608	.440	.440	2	7/32
5/16	10-610	.503	.503	2	1/4
3/8	10-612	.565	.565	2	5/16
7/16	10-614	.628	.628	2	9/32

EXTENSIONS



Male squares have spring plunger

No.	Length	Square Male	Square Female
O-102A	2	1/4	1/4
O-106A	6	1/4	1/4

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH SINGLE HEXAGON OPENINGS FOR HARDENED & SELF-TAPPING SCREWS

Copper colored for positive identification

3/16	20-606	.440	.315	7/8	1/16
1/4	20-608	.440	.440	7/8	7/64
9/32	20-609	.503	.471	7/8	7/64
5/16	20-610	.503	.503	7/8	1/8
11/32	20-611	.503	.503	7/8	1/8
3/8	20-612	.565	.565	7/8	3/16
7/16	20-614	.628	.628	7/8	15/64
1/2	20-616	.691	.691	7/8	15/64

STANDARD LENGTH SINGLE HEX OPEN'GS.—MAGNETIC FOR HARDENED & SELF-TAPPING SCREWS

Copper colored for positive identification

3/16	20-606M	.440	.315	7/8	1/16
1/4	20-608M	.440	.440	7/8	7/64
9/32	20-609M	.503	.471	7/8	7/64
5/16	20-610M	.503	.503	7/8	1/8
11/32	20-611M	.503	.503	7/8	1/8
3/8	20-612M	.565	.565	7/8	3/16

HEXAGON—SQUARE SHANKS



Male squares have spring plunger

No.	Length	Square Male	Hex Male
O-02A	2	1/4	1/4
O-04A	4	1/4	1/4



“2” SERIES—3/8 Inch Square Drive—POWER DRIVE SOCKETS For All Types of Power Wrenches

3/8"



Standard Length



Bolt Clearance Length



Standard Length



Standard Length Magnetic

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STD. LENGTH—ALTERNATE DESIGN SINGLE HEXAGON OPENINGS Industrial Black Finish

5/16	A2-610	.690	.477	7/8	1/4
11/32	A2-611	.690	.515	7/8	9/32
3/8	A2-612	.690	.555	15/16	5/16
7/16	A2-614	.690	.636	15/16	9/32
1/2	A2-616	.716	.716	15/16	21/64
9/16	A2-618	.794	.794	1	13/32
19/32	A2-619	.837	.837	1	5/16
5/8	A2-620	.878	.878	1-1/8	29/64
11/16	A2-622	.956	.956	1-1/8	29/64
3/4	A2-624	1.034	1.034	1-3/16	9/16

STANDARD LENGTH—THIN WALL DOUBLE HEXAGON OPENINGS Industrial Black Finish

1/4	32-1208	.659	.378	15/16	7/32
5/16	32-1210	.659	.440	15/16	1/4
3/8	32-1212	.659	.546	15/16	5/16
7/16	32-1214	.669	.622	15/16	9/32
1/2	32-1216	.701	.701	15/16	21/64
9/16	32-1218	.775	.775	1	13/32
5/8	32-1220	.852	.852	1-1/8	29/64
11/16	32-1222	.929	.929	1-1/8	29/64
3/4	32-1224	1.002	1.002	1-3/16	9/16

STANDARD LENGTH DOUBLE SQUARE OPENINGS Industrial Black Finish

5/16	2-810	.690	.565	7/8	1/4
3/8	2-812	.690	.650	15/16	5/16
7/16	2-814	.753	.753	15/16	15/64
1/2	2-816	.878	.878	15/16	19/64
9/16	2-818	1.003	1.003	1	3/8
5/8	2-820	1.128	1.128	1-1/8	25/64

BOLT CLEARANCE LENGTH SINGLE HEXAGON OPENINGS Industrial Black Finish

5/16	12-610	.690	.477	1-1/2	1/4
3/8	12-612	.690	.555	1-1/2	5/16
7/16	12-614	.690	.636	1-1/2	9/32
1/2	12-616	.716	.716	1-1/2	21/64
9/16	12-618	.794	.794	1-1/2	13/32
5/8	12-620	.878	.878	1-1/2	29/64
11/16	12-622	.956	.956	1-1/2	29/64
3/4	12-624	1.034	1.034	1-1/2	9/16

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH SINGLE HEXAGON OPENINGS FOR HARDENED & SELF-TAPPING SCREWS Copper colored for positive identification

5/16	22-610	.690	.487	1-1/16	1/8
3/8	22-612	.690	.548	1-1/16	3/16
7/16	22-614	.690	.628	1-1/16	15/64
1/2	22-616	.716	.716	1-1/16	15/64

STANDARD LENGTH SINGLE HEX OPEN'GS.—MAGNETIC FOR HARDENED & SELF-TAPPING SCREWS Copper colored for positive identification

5/16	22-610M	.690	.487	1-1/16	1/8
3/8	22-612M	.690	.548	1-1/16	3/16
7/16	22-614M	.690	.628	1-1/16	15/64
1/2	22-616M	.716	.716	1-1/16	15/64

ADAPTER Male square has spring plunger



No.	Length	Square Female	Square Male
2-4A	1-3/8	3/8	1/2

EXTENSIONS Malesquares have spring plunger



No.	Length	Square Male	Square Female
2-103A	3	3/8	3/8
2-106A	6	3/8	3/8

HEX-SQ. SHANKS Male squares have spring plunger



No.	Length	Square Male	Hex Male
2-02A	2	3/8	1/4
2-33A	2-3/4	3/8	7/16
2-35A	5	3/8	7/16
2-38A	8	3/8	7/16

"4" SERIES—1/2 Inch Square Drive—POWER DRIVE SOCKETS For All Types of Power Wrenches

1/2"



Standard Length



Bolt Clearance Length



Standard Length Surface Drive



Bolt Clearance Length Surface Drive

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH SINGLE HEXAGON OPENINGS Industrial Black Finish

3/8	A4-612	.878	.608	1-1/2	5/16
7/16	A4-614	.878	.691	1-1/2	9/32
1/2	A4-616	.940	.776	1-1/2	21/64
9/16	A4-618	.940	.857	1-1/2	13/32
19/32	A4-619	.899	.899	1-1/2	5/16
5/8	A4-620	.944	.944	1-1/2	29/64
11/16	A4-622	1.025	1.025	1-1/2	29/64
3/4	A4-624	1.108	1.108	1-1/2	9/16
25/32	A4-625	1.128	1.128	1-1/2	7/16
13/16	A4-626	1.190	1.190	1-1/2	39/64
7/8	A4-628	1.271	1.271	1-5/8	39/64
15/16	A4-630	1.357	1.357	1-3/4	23/32
1	A4-632	1.440	1.440	1-3/4	35/64
1-1/16	A4-634	1.525	1.525	2	13/16
1-1/8	A4-636	1.565	1.565	2	13/16
1-3/16	A4-638	1.628	1.628	2	7/8
1-1/4	A4-640	1.690	1.690	2	29/32

STANDARD LENGTH—THIN WALL DOUBLE HEXAGON OPENINGS Industrial Black Finish

7/16	34-1214	.888	.638	1-1/2	9/32
1/2	34-1216	.888	.716	1-1/2	21/64
9/16	34-1218	.888	.797	1-1/2	13/32
5/8	34-1220	.888	.888	1-17/32	29/64
11/16	34-1222	.959	.959	1-17/32	29/64
3/4	34-1224	1.029	1.029	1-9/16	9/16
13/16	34-1226	1.107	1.107	1-19/32	39/64
7/8	34-1228	1.187	1.187	1-41/64	39/64
15/16	34-1230	1.243	1.243	1-41/64	23/32

STANDARD LENGTH DOUBLE SQUARE (8 PT.) OPENINGS Industrial Black Finish

3/8	4-812	.878	.715	1-1/2	5/16
7/16	4-814	.940	.817	1-1/2	15/64
1/2	4-816	1.003	.916	1-1/2	19/64
9/16	4-818	1.128	1.014	1-1/2	3/8
5/8	4-820	1.128	1.108	1-1/2	25/64
11/16	4-822	1.253	1.206	1-1/2	29/64
3/4	4-824	1.315	1.315	1-1/2	17/32
13/16	4-826	1.407	1.407	1-1/2	17/32
7/8	4-828	1.516	1.516	1-1/2	39/64
15/16	4-830	1.612	1.612	1-3/4	5/8
1	4-832	1.719	1.719	1-3/4	21/32

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS Industrial Black Finish

7/16	A4-614A	.878	.691	1-1/2	9/32
1/2	A4-616A	.940	.776	1-1/2	21/64
9/16	A4-618A	.940	.857	1-1/2	13/32
5/8	A4-620A	.944	.944	1-1/2	29/64
11/16	A4-622A	1.025	1.025	1-1/2	29/64
3/4	A4-624A	1.108	1.108	1-1/2	9/16
13/16	A4-626A	1.190	1.190	1-1/2	39/64
7/8	A4-628A	1.271	1.271	1-5/8	39/64

BOLT CLEARANCE LENGTH SINGLE HEXAGON OPENINGS Industrial Black Finish

3/8	14-612	.878	.608	3-1/4	5/16
7/16	14-614	.878	.691	3-1/4	9/32
1/2	14-616	.940	.776	3-1/4	21/64
9/16	14-618	.940	.857	3-1/4	13/32
5/8	14-620	.940	.940	3-1/4	29/64
11/16	14-622	1.025	1.025	3-1/4	29/64
3/4	14-624	1.108	1.108	3-1/4	9/16
13/16	14-626	1.190	1.190	3-1/4	39/64
7/8	14-628	1.276	1.276	3-1/2	39/64
15/16	14-630	1.357	1.357	3-1/2	23/32
1	14-632	1.440	1.440	3-1/2	35/64

BOLT CLEAR. LGTH—SURFACE DRIVE SINGLE HEXAGON OPENINGS Industrial Black Finish

7/16	A14-614A	.878	.691	3-1/4	9/32
1/2	A14-616A	.940	.776	3-1/4	21/64
9/16	A14-618A	.940	.857	3-1/4	13/32
5/8	A14-620A	.940	.940	3-1/4	29/64
3/4	A14-624A	1.108	1.108	3-1/4	9/16
13/16	A14-626A	1.190	1.190	3-1/4	39/64

"5" SERIES—5/8 Inch Square Drive—POWER DRIVE SOCKETS **For All Types of Power Wrenches**

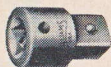
5/8"

ACCESSORIES

"4" SERIES—1/2" Square Drive

Male squares have spring plunger

ADAPTERS



No.	Length	Square Female	Square Male
4-2A	1- 1/2	1/2	3/8
4-5A	1-11/16	1/2	5/8

EXTENSIONS



No.	Length	Square Male	Square Female
4-105A	5	1/2	1/2
4-110A	10	1/2	1/2

HEXAGON SQUARE SHANKS



No.	Length	Square Male	Hex Male
4-33A	2-3/4	1/2	7/16
4-35A	3	1/2	7/16
4-53A	5	1/2	5/8
4-55A	5	1/2	5/8

"5" SERIES—5/8" Square Drive

Male squares have spring plunger

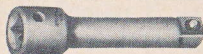
ADAPTERS

† Male Square has thru Pin Hole.



No.	Length	Square Female	Square Male
5-4A	1-7/8	5/8	1/2
5-6	2	5/8	†3/4

EXTENSIONS



No.	Length	Square Female	Square Male
5-106A	6	5/8	5/8
5-110A	10	5/8	5/8

HEXAGON SQUARE SHANKS



No.	Length	Square Male	Hex Male
5-53A	3	5/8	5/8
5-55A	5	5/8	5/8
5-58A	8	5/8	5/8
5-63A	3	5/8	3/4



Standard Length Hex and Double Sq. Openings



Standard Length Surface Drive

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STD. LENGTH—ALTERNATE DESIGN **SINGLE HEXAGON OPENINGS** **Industrial Black Finish**

1/2	A5-616	1.128	.816	1-1/2	21/64
9/16	A5-618	1.190	.851	1-1/2	13/32
19/32	A5-619	1.190	.899	1-1/2	5/16
5/8	A5-620	1.190	.940	1-1/2	29/64
11/16	A5-622	1.190	1.018	1-1/2	29/64
3/4	A5-624	1.190	1.108	1-1/2	9/16
13/16	A5-626	1.190	1.190	1-5/8	39/64
7/8	A5-628	1.271	1.271	1-5/8	39/64
15/16	A5-630	1.357	1.357	2	23/32
1	A5-632	1.440	1.440	2	35/64
1-1/16	A5-634	1.525	1.525	2	13/16
1-1/8	A5-636	1.608	1.608	2	13/16
1-1/4	A5-640	1.777	1.777	2	29/32
1-5/16	A5-642	1.853	1.853	2	49/64
1-3/8	A5-644	1.936	1.936	2-1/8	49/64
1-7/16	A5-646	2.003	2.003	2-1/4	49/64
1-1/2	A5-648	2.090	2.090	2-3/8	7/8

STANDARD LENGTH **DOUBLE SQUARE (8 PT.) OPENINGS** **Industrial Black Finish**

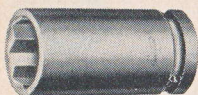
9/16	5-818	1.190	1.014	1-1/2	3/8
5/8	5-820	1.190	1.128	1-1/2	25/64
11/16	5-822	1.253	1.253	1-1/2	29/64
3/4	5-824	1.315	1.315	1-1/2	17/32
13/16	5-826	1.407	1.407	1-1/2	17/32
7/8	5-828	1.516	1.516	1-1/2	39/64
15/16	5-830	1.614	1.614	1-3/4	5/8
1	5-832	1.719	1.719	1-3/4	21/32
1-1/16	5-834	1.836	1.836	2	3/4
1-1/8	5-836	1.933	1.933	2	25/32

STANDARD LENGTH—SURFACE DRIVE **SINGLE HEXAGON OPENINGS** **Industrial Black Finish**

5/8	A5-620A	1.190	.940	1-1/2	29/64
11/16	A5-622A	1.190	1.018	1-1/2	29/64
3/4	A5-624A	1.190	1.108	1-1/2	9/16
13/16	A5-626A	1.190	1.190	1-5/8	39/64
7/8	A5-628A	1.271	1.271	1-5/8	39/64
15/16	A5-630A	1.357	1.357	2	23/32
1	A5-632A	1.440	1.440	2	35/64
1-1/16	A5-634A	1.525	1.525	2	13/16

"6" SERIES—3/4 Inch Square Drive—POWER DRIVE SOCKETS **For All Types of Power Wrenches**

3/4"



Bolt Clearance Length



Standard Length



Standard Length

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH **SINGLE HEXAGON OPENINGS** **Industrial Black Finish**

5/8	6-620	1.628	1.096	1-3/4	29/64
11/16	6-622	1.628	1.159	1-3/4	29/64
3/4	6-624	1.628	1.253	1-3/4	9/16
25/32	6-625	1.628	1.284	1-3/4	7/16
13/16	6-626	1.628	1.378	1-7/8	39/64
7/8	6-628	1.628	1.503	1-7/8	39/64
15/16	6-630	1.628	1.565	2	33/32
1	6-632	1.628	1.628	2	25/64
1-1/16	6-634	1.628	1.690	2	13/16
1-1/8	6-636	1.628	1.753	2-1/8	13/16
1-3/16	6-638	1.628	1.878	2-1/4	7/8
1-1/4	6-640	1.753	2.003	2-1/4	29/32
1-5/16	6-642	1.753	2.065	2-1/4	49/64
1-3/8	6-644	1.753	2.128	2-1/4	49/64
1-7/16	6-646	1.753	2.253	2-1/4	49/64
1-1/2	6-648	1.753	2.315	2-3/8	7/8
1-5/8	6-652	1.878	2.440	2-3/8	7/8
1-11/16	6-654	1.878	2.503	2-3/8	1

BOLT CLEARANCE LENGTH **SINGLE HEXAGON OPENINGS** **Industrial Black Finish**

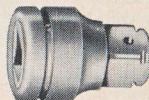
5/8	16-620	1.628	1.096	3-1/4	29/64
11/16	16-622	1.628	1.159	3-1/4	29/64
3/4	16-624	1.628	1.253	3-1/4	9/16
13/16	16-626	1.628	1.378	3-1/4	39/64
7/8	16-628	1.628	1.503	3-1/2	39/64
15/16	16-630	1.628	1.565	3-1/2	23/32
1	16-632	1.628	1.628	3-1/2	35/64
1-1/16	16-634	1.628	1.690	3-1/2	13/16
1-1/8	16-636	1.628	1.753	3-1/2	13/16
1-3/16	16-638	1.628	1.878	3-1/2	7/8
1-1/4	16-640	1.753	2.003	3-1/2	29/32
1-5/16	16-642	1.753	2.065	3-1/2	49/64
1-7/16	16-646	1.753	2.253	3-1/2	49/64
1-1/2	16-648	1.753	2.315	3-1/2	7/8
1-5/8	16-652	1.753	2.440	3-1/2	7/8

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH **DOUBLE SQUARE (8 PT.) OPENINGS** **Industrial Black Finish**

5/8	6-420	1.628	1.253	1-5/8	25/64
3/4	6-424	1.628	1.503	1-3/4	17/32
13/16	6-426	1.628	1.628	1-7/8	5/8
7/8	6-826	1.628	1.628	1-7/8	17/32
15/16	6-828	1.628	1.753	1-7/8	39/64
1	6-830	1.628	1.815	1-7/8	5/8
1-1/16	6-832	1.628	1.940	2	21/32
1-1/8	6-834	1.753	2.003	2	3/4
1-1/4	6-836	1.753	2.128	2-1/8	25/32
1-3/16	6-838	1.753	2.253	2-1/8	13/16
1-1/4	6-840	1.753	2.378	2-1/8	29/32
1-5/16	6-842	1.753	2.503	2-1/4	49/64
1-7/16	6-846	1.753	2.628	2-1/4	49/64

ACCESSORIES **Male Squares have thru Pin Hole** **ADAPTER**



No.	Length	Square Female	Square Male
6-7	2-1/2	3/4	1

EXTENSIONS



No.	Length	Square Male	Square Female
6-107	7	3/4	3/4
6-110	10	3/4	3/4
6-113	13	3/4	3/4

For Socket Servicing Budd Wheels in 3/4" Square Drive see Page 55

"7" SERIES—1 Inch Square Drive—POWER DRIVE SOCKETS For All Types of Power Wrenches

1"



Standard Length

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH SINGLE HEXAGON OPENINGS Industrial Black Finish

3/4	7-624	2.003	1.440	2- 1/16	9/16
13/16	7-626	2.003	1.503	2- 3/16	39/64
7/8	7-628	2.003	1.534	2- 3/16	39/64
15/16	7-630	2.003	1.596	2- 3/16	23/32
1	7-632	2.003	1.753	2- 1/4	35/64
1- 1/16	7-634	2.003	1.753	2- 1/4	13/16
1- 1/8	7-636	2.128	1.815	2- 3/8	13/16
1- 3/16	7-638	2.128	1.878	2- 7/16	7/8
1- 1/4	7-640	2.128	2.003	2- 7/16	29/32
1- 5/16	7-642	2.128	2.065	2- 9/16	49/64
1- 3/8	7-644	2.253	2.128	2- 9/16	49/64
1- 7/16	7-646	2.253	2.253	2- 9/16	49/64
1- 1/2	7-648	2.253	2.315	2- 5/8	7/8
1- 9/16	7-650	2.253	2.378	2- 5/8	7/8
1- 5/8	7-652	2.253	2.440	2- 5/8	7/8
1-11/16	7-654	2.253	2.565	2-11/16	1
1- 3/4	7-656	2.253	2.628	2-11/16	1
1-13/16	7-658	2.253	2.753	2- 3/4	1
1- 7/8	7-660	2.253	2.753	2- 7/8	1- 3/32
1-15/16	7-662	2.253	2.878	2- 7/8	1- 3/32
2	7-664	2.253	3.003	2-15/16	1- 3/32
2- 1/16	7-666	2.253	3.003	3- 1/16	1-13/64
2- 1/8	7-668	2.378	3.128	3- 1/8	1-13/64
2- 3/16	7-670	2.378	3.253	3- 1/8	1-13/64
2- 1/4	7-672	2.378	3.253	3- 1/4	1- 5/16
2- 5/16	7-674	2.378	3.378	3- 5/16	1- 5/16
2- 3/8	7-676	2.378	3.503	3- 5/16	1- 5/16
2- 7/16	7-678	2.378	3.503	3- 1/2	1-25/64
2- 1/2	7-680	2.378	3.628	3- 1/2	1-25/64
2- 9/16	7-682	2.378	3.753	3- 1/2	1-25/64
2- 5/8	7-684	2.378	3.753	3-11/16	1- 1/2
2-11/16	7-686	2.378	3.878	3-11/16	1- 1/2
2- 3/4	7-688	2.378	3.878	3-11/16	1- 1/2
2-13/16	7-690	2.378	4.003	3- 7/8	1-39/64
2- 7/8	7-692	2.378	4.003	3-15/16	1-39/64
2-15/16	7-694	2.378	4.128	3-15/16	1-39/64
3	7-696	2.378	4.253	4- 1/16	1-23/32
3- 1/8	7-6100	2.378	4.378	4- 1/8	1-23/32
3- 1/4	7-6104	2.378	4.503	4- 1/8	1-23/32
3- 3/8	7-6108	2.378	4.628	4- 1/2	1-59/64
3- 1/2	7-6112	2.378	4.753	4- 1/2	1-59/64
3- 5/8	7-6116	2.378	5.003	4- 1/2	1-59/64



Standard Length

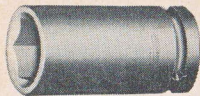
Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH SQUARE & DOUBLE SQUARE OPENINGS Industrial Black Finish

3/4	7-424	2.003	1.878	2- 1/8	17/32
25/32	7-425	2.003	1.940	2- 1/8	17/32
13/16	7-426	2.003	1.940	2- 1/8	17/32
7/8	7-428	2.003	2.003	2- 1/4	39/64
15/16	7-430	2.128	2.065	2- 1/4	5/8
1	7-432	2.128	2.128	2- 5/16	21/32
1- 1/16	7-434	2.128	2.128	2- 5/16	3/4
1- 3/8	7-436	2.253	2.253	2- 1/2	25/32
1- 3/16	7-838	2.253	2.315	2- 1/2	13/16
1- 1/4	7-840	2.253	2.378	2- 1/2	29/32
1- 5/16	7-842	2.253	2.565	2- 1/2	49/64
1- 3/8	7-844	2.253	2.628	2- 1/2	49/64
1- 7/16	7-846	2.253	2.628	2- 1/2	49/64
1- 1/2	7-848	2.253	2.753	2- 5/8	7/8
1- 9/16	7-850	2.253	2.878	2- 5/8	7/8
1- 5/8	7-852	2.253	3.003	2- 5/8	7/8
1-11/16	7-854	2.253	3.128	2-13/16	1
1- 3/4	7-856	2.253	3.253	2-13/16	1
1-13/16	7-858	2.253	3.253	2-13/16	1
1- 7/8	7-860	2.253	3.378	3	1- 3/32
1-15/16	7-862	2.253	3.503	3- 1/16	1- 3/32
2	7-864	2.253	3.628	3- 1/16	1- 3/32
2- 1/16	7-866	2.253	3.628	3- 1/4	1-13/64
2- 1/8	7-868	2.253	3.753	3- 1/4	1-13/64
2- 3/16	7-870	2.253	3.878	3- 1/4	1-13/64
2- 1/4	7-872	2.253	3.878	3- 7/16	1- 5/16
2- 5/16	7-874	2.378	4.003	3- 7/16	1- 5/16
2- 3/8	7-876	2.378	4.128	3- 1/2	1- 5/16
2- 3/4	7-888	2.378	4.503	3- 7/8	1- 1/2



"7" SERIES—1 Inch Square Drive—POWER DRIVE SOCKETS For All Types of Power Wrenches



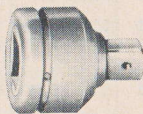
Bolt Clearance Length

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

**BOLT CLEARANCE LENGTH
SINGLE HEXAGON OPENINGS
Industrial Black Finish**

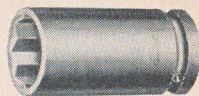
7/8	17-628	2.003	1.440	3	39/64
15/16	17-630	2.003	1.596	3	23/32
1	17-632	2.003	1.753	3	35/64
1- 1/16	17-634	2.003	1.753	3	13/16
1- 1/8	17-636	2.128	1.815	3	13/16
1- 3/16	17-638	2.128	1.878	3	7/8
1- 1/4	17-640	2.128	2.003	3	29/32
1- 5/16	17-642	2.128	2.065	3-1/2	49/64
1- 3/8	17-644	2.253	2.128	3-1/2	49/64
1- 7/16	17-646	2.253	2.253	3-1/2	49/64
1- 1/2	17-648	2.253	2.315	3-1/2	7/8
1- 9/16	17-650	2.253	2.378	3-1/2	7/8
1- 5/8	17-652	2.253	2.440	3-1/2	7/8
1-11/16	17-654	2.253	2.565	3-5/8	1
1- 3/4	17-656	2.253	2.625	3-5/8	1
1-13/16	17-658	2.253	2.753	3-5/8	1
1- 7/8	17-660	2.253	2.753	3-7/8	1- 3/32
1-15/16	17-662	2.253	2.878	3-7/8	1- 3/32
2	17-664	2.253	3.003	3-7/8	1- 3/32
2- 1/16	17-666	2.253	3.003	4-1/8	1-13/64
2- 1/8	17-668	2.378	3.128	4-1/8	1-13/64
2- 3/16	17-670	2.378	3.253	4-1/8	1-13/64
2- 1/4	17-672	2.378	3.253	4-3/8	1- 5/16
2- 5/16	17-674	2.378	3.378	4-3/8	1- 5/16
2- 3/8	17-676	2.378	3.503	4-3/8	1- 5/16

ADAPTER



Male Square has thru Pin Hole

No.	Length	Square Female	Square Male
7-6	3	1	3/4



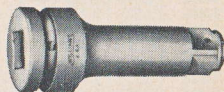
Bolt Clearance Length

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

**BOLT CLEARANCE LENGTH
SQUARE—DOUBLE SQUARE OPENINGS
Industrial Black Finish**

3/4	17-424	2.003	1.878	3	17/32
25/32	17-425	2.003	1.940	3	17/32
13/16	17-426	2.003	1.940	3	17/32
7/8	17-428	2.003	2.003	3	39/64
15/16	17-430	2.128	2.065	3	5/8
1	17-432	2.128	2.128	3	21/32
1- 1/16	17-434	2.128	2.128	3	3/4
1- 1/8	17-436	2.253	2.253	3	25/32
1- 3/16	17-838	2.253	2.315	3	13/16
1- 1/4	17-840	2.253	2.378	3	29/32
1- 5/16	17-842	2.253	2.565	3-1/2	49/64
1- 3/8	17-844	2.253	2.628	3-1/2	49/64
1- 7/16	17-846	2.253	2.628	3-1/2	49/64
1- 1/2	17-848	2.253	2.753	3-1/2	7/8
1- 9/16	17-850	2.253	2.878	3-1/2	7/8
1- 5/8	17-852	2.253	3.003	3-1/2	7/8
1-11/16	17-854	2.253	3.128	3-5/8	1
1- 3/4	17-856	2.253	3.253	3-5/8	1
1-13/16	17-858	2.253	3.253	3-5/8	1
1- 7/8	17-860	2.253	3.378	3-7/8	1- 3/32
1-15/16	17-862	2.253	3.503	3-7/8	1- 3/32
2	17-864	2.253	3.628	3-7/8	1- 3/32
2- 1/16	17-866	2.253	3.628	4-1/8	1-13/64
2- 1/8	17-868	2.253	3.753	4-1/8	1-13/64
2- 3/16	17-870	2.253	3.878	4-1/8	1-13/64
2- 1/4	17-872	2.253	3.878	4-3/8	1- 5/16
2- 5/16	17-874	2.378	4.003	4-3/8	1- 5/16
2- 3/8	17-876	2.378	4.128	4-3/8	1- 5/16

EXTENSION



Male Square has thru Pin Hole

No.	Length	Square Female	Square Male
7-107	7	1	1

“8” SERIES—1-1/2 Inch Square Drive—POWER DRIVE SOCKETS For All Types of Power Wrenches

1 1/2

3/4" and 1" SQ. DRIVE SOCKETS FOR SERVICING BUDD WHEELS



6-BW7
7-BW9



16-BW426
17-BW426



6-BW4
7-BW4

Sockets 6 or 7-BW4 and 6-BW7 or 7-BW9 each have two openings (13/16" sq. and 1-1/2" hex) in the same socket. They are designed for quick application and removal of all "on-the-road" Budd type wheels.

For checking the tightness of installed wheels, the 1-1/2" hexagon opening of either 6 or 7-BW4 or 6-BW7 or 7-BW9 may be used with 16 or 17-BW426 to tighten the square-ended Budd stud separately.

“6” SERIES 3/4" Square Drive		“7” SERIES 1" Square Drive	
No.	Length	No.	Length
6-BW4	4	7-BW4	4
6-BW7	7-1/2	7-BW9	9
16-BW426	4	17-BW426	4

REPLACEMENT PARTS



Pin Plunger



Spring



Plug

Sets consisting of a plunger, spring and brass plug are packed 24 sets to a box.

Type Plunger	Set Number for Square Drive Size			
	1/4"	3/8"	1/2"	5/8"
Pin	PA-O-P	PA-2-P	PA-4-P	PA-5-P



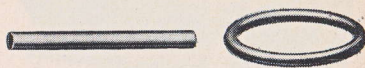
Standard Length

Nominal Opening	No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length Overall	Depth Opening

STANDARD LENGTH SINGLE HEXAGON OPENINGS Industrial Black Finish

1- 5/16	8-642	3.253	2.503	3-1/8	49/64
1- 3/8	8-644	3.253	2.753	3-1/8	49/64
1- 7/16	8-646	3.253	2.753	3-1/8	49/64
1- 1/2	8-648	3.253	2.878	3-1/8	7/8
1- 5/8	8-652	3.253	3.003	3-1/8	7/8
1-11/16	8-654	3.253	3.003	3-1/8	1
1-13/16	8-658	3.253	3.128	3-1/4	1
1- 7/8	8-660	3.253	3.128	3-1/4	1- 3/32
2	8-664	3.253	3.253	3-3/4	1- 3/32
2- 1/16	8-666	3.253	3.503	3-7/8	1-13/64
2- 1/8	8-668	3.253	3.503	3-7/8	1-13/64
2- 3/16	8-670	3.253	3.503	3-7/8	1-13/64
2- 1/4	8-672	3.253	3.753	4	1- 5/16
2- 3/8	8-676	3.253	3.878	4-1/8	1- 5/16
2- 7/16	8-678	3.253	3.878	4-1/8	1-25/64
2- 9/16	8-682	3.253	4.003	4-1/4	1-25/64
2- 5/8	8-684	3.253	4.128	4-1/4	1- 1/2
2- 3/4	8-688	3.253	4.253	4-3/8	1- 1/2
2-15/16	8-694	3.253	4.503	4-1/2	1-39/64
3	8-696	3.253	4.503	4-5/8	1-23/32
3- 1/8	8-6100	3.253	4.753	4-5/8	1-23/32
3- 3/8	8-6108	3.253	5.003	4-5/8	1-59/64
3- 1/2	8-6112	3.253	5.128	4-5/8	1-59/64

PINS AND RINGS

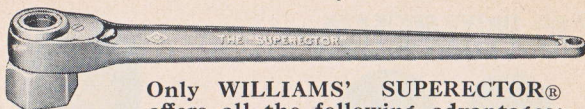


Drive Size	Socket and Extension Nos.	Pin Type	Ring Type
3/4"	6-620 thru 6-638	B	A-1
	6-640 thru 6-654	C	
	6-420 thru 6-426	B	
	6-826 thru 6-830	B	
	6-832 thru 6-846	C	
	16-620 thru 16-638	B	
	16-640 thru 16-652	C	
	All Adapters	C	
	All Extensions	C	
	Fit all sizes	D	
1"	Fit all sizes	D	B-1
1-1/2"	Fit all sizes	E	C-1



WILLIAMS' SUPERECTOR® RATCHET WRENCHES

Industrial Gray Finish



**Only WILLIAMS' SUPERECTOR®
offers all the following advantages:**

QUADRUPLE PAWLS. Two pawls engaging 2 teeth for both ON and OFF rotation of nuts, providing increased bearing and strength.

HANDLE drop-forged (not cast) from special high grade steel.

GEAR TEETH. 20 teeth in ALL socket gears instead of the usual 16 teeth.

SHIFTER. When in neutral, completely disengages all gears for easy insertion and removal of the Socket. A flip of the lever reverses the action of the wrench.

SOCKETS have hole through center; turn nuts on any length of bolt. All are heat-treated for maximum strength.

WRENCHES ONLY, without SOCKETS

Number	Length
E1-24	24
E1-36	36

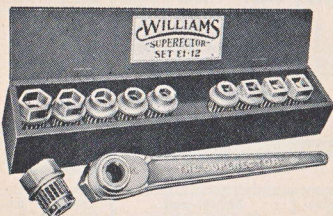
E1 Sockets fit both above Wrenches only

E2-36	36
E2-48	48

E2 Sockets fit both above Wrenches only

E3-48	53
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E3 Sockets fit the above Wrench only



SET No. E1-12
12 Pieces

In Wooden Box 36 x 6 x 5-1/2"

Contains Superector® Wrench E1-24 and 11 Sockets: 4 Square—1-1/16, 1-1/4, 1-7/16 and 1-5/8". 7 Hex—1-1/16, 1-1/4, 1-7/16, 1-5/8, 1-13/16 2 and 2-3/16".

SOCKETS ONLY — Hex and Square

Nominal Opening, Size Across Flats	Number	
	Hex Socket	Square Socket

E1 SOCKETS below fit E1-24 and E1-36 Wrenches ONLY

1		E1-416
1- 1/16	E1-617	E1-417
1- 1/8	E1-618	E1-418
1- 1/4	E1-620	E1-420
1- 5/16	E1-621	E1-421
1- 7/16	E1-623	E1-423
1- 1/2	E1-624	E1-424
1- 5/8	E1-626	E1-426
1-11/16	E1-627	
1- 3/4	E1-628	
1-13/16	E1-629	E1-429
1- 7/8	E1-630	E1-430
2	E1-632	E1-432
2- 1/16	E1-633	
2- 3/16	E1-635	E1-435
2- 1/4	E1-636	E1-436

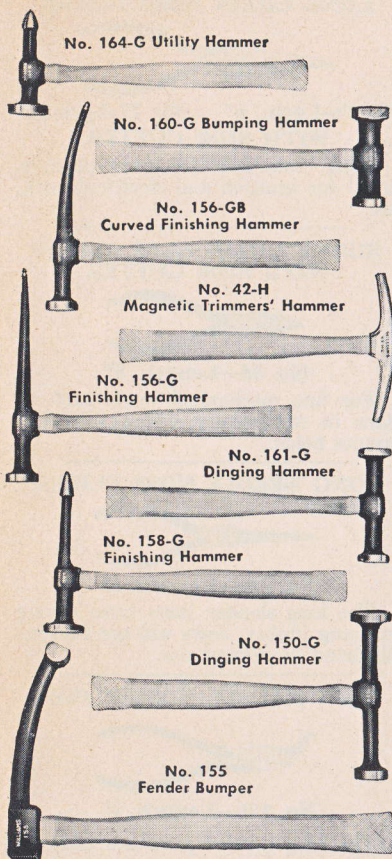
E2 SOCKETS below fit E2-36 and E2-48 Wrenches ONLY

2	E2-632	E2-432
2- 3/16	E2-635	E2-435
2- 3/8	E2-638	E2-438
2- 9/16	E2-641	E2-441
2- 3/4	E2-644	E2-444
2-15/16	E2-647	E2-447
3- 1/8	E2-650	E2-450

E3 SOCKETS below fit E3-48 Wrench ONLY

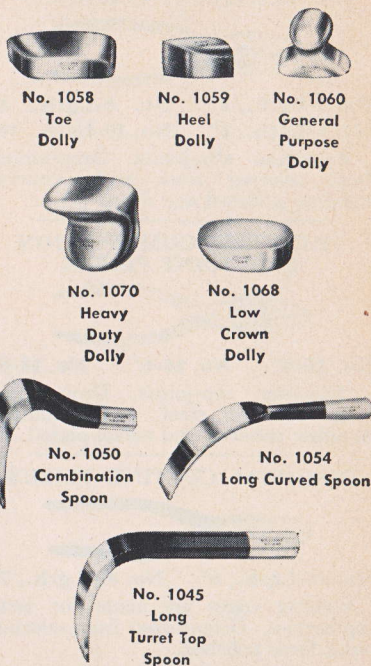
3-1/8	E3-650	E3-450
3-1/2	E3-656	E3-456
3-7/8	E3-662	E3-462
4-1/4	E3-668	E3-468
4-5/8	E3-674	E3-474

WILLIAMS' BODY and FENDER HAMMERS



No.	FACES		Length Head Overall	Handle Length
	Round	Square		
150-G	1 1/4 x 1 1/16		6	11-1/2
155			8-1/2	15
156-G	1-1/4		8	11-1/2
156-GB	1-1/4		8	11-1/2
158-G	1-9/16		6-3/4	11-1/2
160-G	1-1/4	1-3/16	4	11-1/2
161-G	1-1/4	1-1/8	4	11-1/2
164-G	1-9/16		4	11-1/2
42-H			5-7/8	11

WILLIAMS' DOLLY BLOCKS and SPOONS



Drop-forged from selected steel. Blocks are full polished. Bodies of Spoons are finished in black, blade ends are full polished.

DOLLY BLOCKS

Number	Size
1058	4-3/4 x 2-1/4 x 1-1/16
1059	3-1/8 x 2-3/8 x 1-7/16
1060	2-7/8 x 2-3/8 x 2-1/4
1068	2-3/4 x 1-5/8 x 4
1070	3-5/8 x 3-1/4 x 2-1/2

SPOONS

No.	Length Overall	Face
1045	10	1-7/8 x 5-1/4 x 3/16
1050	4-3/4	1-3/4 x 5-1/2
1054	10-1/2	2 x 7

WILLIAMS' DROP-FORGED PLIERS

SLIP-JOINT PLIERS



No. 5-Lgth., 5" No. 8-Lgth., 8"
No. 6-Lgth., 6" No. 10-Lgth., 10"

2-position slip-joints. Drop-forged from selected steel, with knurled handles, polished and nickel-plated.

THIN NOSE COMBINATION SLIP-JOINT PLIERS



No. 15-5" No. 16-6" No. 18-8"

2-position slip-joints. Drop-forged from selected steel, with knurled handles; polished and nickel-plated.

DIAGONAL CUTTING PLIERS



No. 46-Lgth., 6" No. 47-Lgth., 7"

Cutting edges are made for lasting service. Drop-forged from selected steel, faces polished.

HIGH LEVERAGE DIAGONAL CUTTING PLIERS



No. 57—Length, 7"

Added leverage for easier and more powerful heavy duty cutting. Drop-forged, faces polished.

BATTERY PLIERS



No. 67—Length, 7"

Offset jaws allow ample hand clearance for battery terminal work. Milled teeth assure positive grip.

LONG CHAIN NOSE PLIERS



No. 76-Lgth., 6" No. 77-Lgth., 7"
WITH SIDE CUTTER

Long, thin nose for close quarters. Ideal for ignition and electrical work, etc.

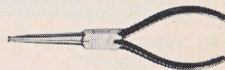
SHORT CHAIN NOSE PLIERS WITH SIDE CUTTER



No. 95—Length, 5"

For fine mechanical work such as done in the jewelry, optical and electronics fields.

LONG NEEDLE NOSE PLIERS



No. 116—Length, 6"

The long slender jaws have strong gripping ability. Jaws will not become distorted in normal use.

BENT NEEDLE NOSE PLIERS



No. 126—Length, 6"

The long slender jaws are bent to reach around or under obstructions. Jaws have strong gripping ability.

ROUND NOSE PLIERS



No. 136—Length, 6"

Extensively used for flat or round wire forming. Nose and jaws are amply strong for this type of work.



WILLIAMS' DROP-FORGED PLIERS

DUCK BILL PLIERS



No. 146—Length, 6"

Used in highly inaccessible places where there is not space for ordinary pliers. Strong jaws have firm grip.

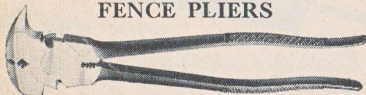
END CUTTING NIPPERS



No. 166—Lgth., 6" No. 167—Lgth., 7"

These powerful, easy cutting nippers have carefully sharpened edges. Wide throat provides ample clearance.

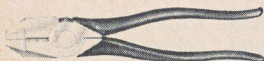
FENCE PLIERS



No. 190—Length, 10"

Head has hammer on one jaw, starting and pulling point on the other. Pliers also have two wire cutters, staple puller and wire splicer in nose, wire stretcher and lug lifter.

LINEMEN'S SIDE CUTTING PLIERS



No. 206-6" No. 207-7" No. 208-8"

Surface of jaws are deep milled for holding and bending wire. Jaws have powerful cutters.

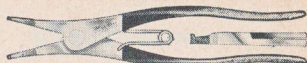
SLIP-JOINT PLIERS



No. 370 With Side Cutter—Lgth., 7"

These pliers have keen side cutters and a flush head rivet on one side. Drop-forged from selected steel.

LOCK RING PLIERS



No. 1515—Length, 8"

For spreading "Horse Shoe" snap lock rings on brakes, transmissions, pulleys, etc.

BRAKE PLIERS

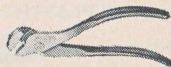


For Brake-Shoe Springs

No. 1517A—Length, 13"

For inserting and removing springs (internal). Gray satin finish; faces of head polished.

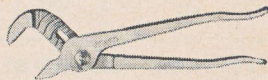
RIB-JOINT IGNITION PLIERS



No. 1519A—Length, 5"

Rib-joint holds jaws parallel at the most important openings; faces polished.

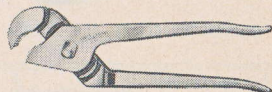
RIB-JOINT UTILITY PLIERS



No. 1520A—Length, 10"

Very efficient for general service. Drop-forged from selected steel, faces polished.

RIB-JOINT HEAVY DUTY PLIERS



No. 1521A—Length, 10"

Heavy duty construction makes this plier particularly useful in plumbing and electrical trades.



WILLIAMS' SCREW DRIVERS

REGULAR — ROUND BLADE



TRANSPARENT PLASTIC HANDLE



CUSHION GRIP HANDLE

No. and Type Handle		Blade Lgth.	Stock Size	Tip Width
Plastic	Cushion			
24	24G	4	1/4	1/4
26	26G	6	5/16	5/16
28	28G	8	3/8	3/8
32	....	12	3/8	3/8

REGULAR — SQUARE BLADE



TRANSPARENT PLASTIC HANDLE



CUSHION GRIP HANDLE

No. and Type Handle		Blade Lgth.	Stock Size	Tip Width
Plastic	Cushion			
4	4G	4	1/4	5/16
6	6G	6	5/16	5/16
6B	....	6	3/8	3/8
8	8G	8	3/8	3/8
12	....	12	3/8	3/8

ELECTRICIANS'—ROUND BLADE



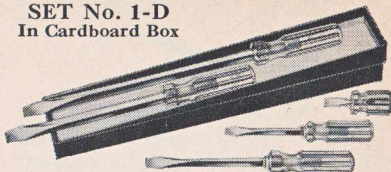
TRANSPARENT PLASTIC HANDLE



CUSHION GRIP HANDLE

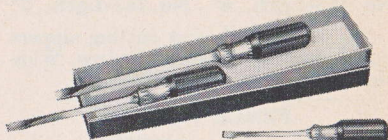
No. and Type Handle		Blade Lgth.	Stock Size	Tip Width
Plastic	Cushion			
43	43G	3	3/16	3/16
46	46G	6	3/16	3/16
50	....	10	3/16	3/16

SET No. 1-D In Cardboard Box



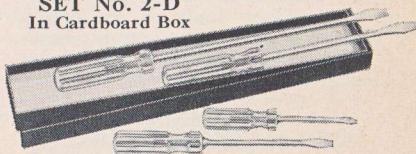
Contains 1 each Nos. 4, 6, 8, 12 and 62 Regular Screw Drivers with square blades, plastic handles.

SET No. 1-DG In Cardboard Box



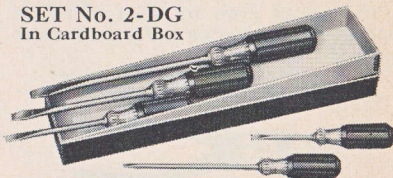
Contains 1 each Nos. 4G, 6G and 8G Regular Screw Drivers with square blades and cushion grip handles.

SET No. 2-D In Cardboard Box



Contains 1 each Nos. 24, 26, 28 and 32 Regular Screw Drivers with round blades, plastic handles.

SET No. 2-DG In Cardboard Box

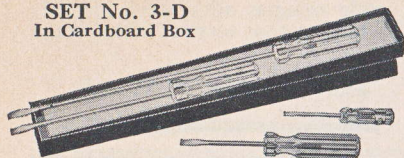


Contains 1 each Nos. 24G, 26G, 28G Regular and Nos. 43G and 46G Electricians' Screw Drivers with round blades and cushion grip handles.



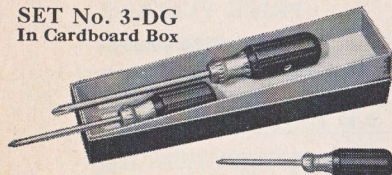
WILLIAMS' SCREW DRIVERS

SET No. 3-D In Cardboard Box



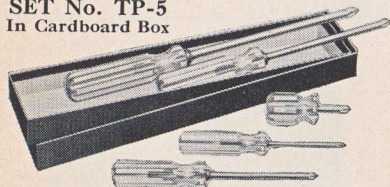
Contains 1 each Nos. 43, 46, 50 and 52 Williams' Electricians' Screw Drivers with plastic handles.

SET No. 3-DG In Cardboard Box



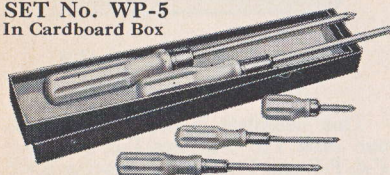
Contains 1 each Nos. TP-1G, TP-2G and TP-3G Phillips Screw Drivers with cushion grip handles.

SET No. TP-5 In Cardboard Box



Contains 1 each Nos. TP-1, TP-2, TP-3, TP-4 and TP-62 Phillips Screw Drivers with plastic handles.

SET No. WP-5 In Cardboard Box



Contains 1 each Nos. WP-1, WP-2, WP-3, WP-4 and WP-62 Phillips Screw Drivers with hardwood handles.

REGULAR STUBBY (Adjusting)



TRANSPARENT PLASTIC HANDLE

No.	Blade Length	Stock Size	Tip Width
62	1-1/2	1/4	5/16

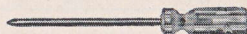
POCKET (With Clip)



TRANSPARENT PLASTIC HANDLE

No.	Blade Length	Stock Size	Tip Width
52	2-1/4	1/8	1/8

PHILLIPS



TRANSPARENT PLASTIC HANDLE



CUSHION GRIP HANDLE



WOOD HANDLE

No. and Type Handle			Fits Screws No.	Blade Lgth.
Plastic	Cushion	Wood		
TP-1	TP-1G	WP-1	4 or smaller	3
TP-2	TP-2G	WP-2	5 to 9 incl.	4
TP-3	TP-3G	WP-3	10 to 16 incl.	6
TP-4	.....	WP-4	18 and larger	8

PHILLIPS STUBBY (Adjusting)



TRANSPARENT PLASTIC HANDLE

No. and Type Handle		Fits Screws No.	Blade Length
Plastic	Wood		
TP-62	WP-62	5 to 9 incl.	1-1/2



WILLIAMS' PUNCHES

Williams' Punches are forged from high grade octagon alloy steel, properly hardened and tempered to stand up under the most severe service. Black body; taper and head full polished.

PIN PUNCHES

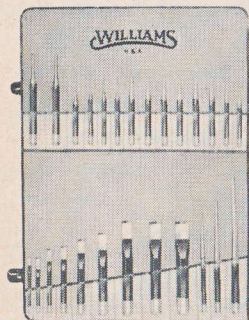


No.	Point Diam.	Stock Size	Length
P-3	3/32	3/8	6
P-4	1/8	3/8	6
P-5	5/32	3/8	6
P-6	3/16	1/2	6
P-8	1/4	5/8	8
P-10	5/16	5/8	8

SOLID PUNCHES



No.	Point Diam.	Stock Size	Length
P-13	3/32	1/2	6
P-14	1/8	1/2	6
P-15	5/32	1/2	6
P-16	3/16	1/2	6
P-17	1/4	1/2	6



PUNCH and CHISEL SET No. PC-26R In Leatherette Roll

This combination set contains a complete assortment of Williams Punches and Chisels. It combines the contents of Punch Set No. PS-17 and Chisel Set No. CS-9 into one handy roll.

LONG TAPER PUNCHES



No.	Point Diam.	Stock Size	Length
P-25	5/32	3/8	9
P-26	3/16	1/2	10
P-28	1/4	5/8	12

PRICK PUNCHES

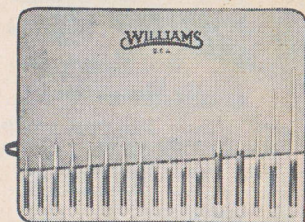


No.	Point Diam.	Stock Size	Length
P-30	3/8	5

CENTER PUNCHES



No.	Point Diam.	Stock Size	Length
P-40	3/8	5
P-42	1/2	6



PUNCH SET No. PS-17R In Leatherette Roll

This complete punch set contains one each Pin Punches P-3, P-4, P-5, P-6, P-8 and P-10; Solid Punches P-13, P-14, P-15, P-16 and P-17; Long Taper Punches P-25, P-26 and P-28; Prick Punch P-30; Center Punches P-40 and P-42.



WILLIAMS' CHISELS

Williams Chisels and Pinch Bars of high grade octagon alloy steel are carefully forged, hardened and tempered. Body finished in black with full polished ends. Rivet Buster is designed especially for cutting off hardened rivet heads.

COLD OR FLAT CHISELS



No.	Width of Cut	Stock Size	Length
C-8	1/4	1/4	4 3/4
C-10	5/16	5/16	5
C-12	3/8	3/8	5 1/2
C-16	1/2	1/2	6
C-20	5/8	5/8	6 1/2
C-24	3/4	3/4	7
C-28	7/8	7/8	8
C-32	1	7/8	8
C-36	1 1/8	1	8

EXTRA LONG COLD CHISELS



No.	Width of Cut	Stock Size	Length
C-120	5/8	1/2	12
C-124	3/4	5/8	12
C-132	1	3/4	12

RIVET BUSTER



No.	Width of Cut	Stock Size	Length
C-422	11/16	3/4	12



CHISEL SET No. CS-8R
In Leatherette Roll

This handy chisel set contains one each Cape Chisels C-40, C-42, C-44 and C-46; Diamond Point Chisels C-60 and C-62; Round Nose Chisels C-72 and C-74.

CAPE CHISELS



No.	Width of Cut	Stock Size	Length
C-40	3/16	3/8	6
C-42	1/4	1/2	6 1/4
C-44	5/16	1/2	6 1/4
C-46	3/8	5/8	7

DIAMOND POINT CHISELS



No.	Width of Cut	Stock Size	Length
C-60	1/4	3/8	5 1/4
C-62	3/8	5/8	6

ROUND NOSE CHISELS



No.	Width of Cut	Stock Size	Length
C-72	1/4	1/2	6 1/4
C-74	3/8	5/8	7

PINCH BARS



No.	Width of Cut	Stock Size	Length
C-80	1/2	14
C-82	5/8	16



CHISEL SET No. CS-9R
In Leatherette Roll

This compact set contains a complete range of Cold Chisels consisting of one each C-8, C-10, C-12, C-16, C-20, C-24, C-28, C-32 and C-36.



WILLIAMS' SOFT-FACE HAMMERS

With Interchangeable Tips



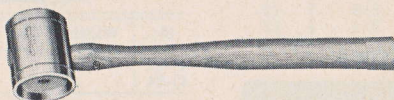
These tips are highly resistant to common industrial solvents and acids. They are non-explosive and electrically non-conductive. Hickory handles used throughout.

Series 100, 150, 153, 200, 250 and 300 have aluminum alloy heads with bright finish. Series 105, 155, 205, 207, 255 and 305 have die-cast zinc-alloy heads with bright finish.

Series 152 and 202 have chrome-plated brass heads and are shot loaded offering 30% more driving power with less worker fatigue, fewer blows, less rebound and less shock.

Hammer bodies and tips as listed on opposite page are shipped unassembled.

HAMMER BODIES ONLY



No.	Head		Handle Length
	Diam.	Length	
100	1	3-1/2	11-3/8
105	1	3-1/2	11-3/8
150	1-1/2	4-3/8	13
152	1-1/2	5-3/8	13
153	1-1/2	7	13
155	1-1/2	4-3/8	13
200	2	5	13

No.	Head		Handle Length
	Diam.	Length	
202	2	7	13
205	2	5	13
207	2	6-3/8	15
250	2-1/2	6-1/4	15
255	2-1/2	6-1/4	13
300	3	7	14
305	3	7	14



TIPS ONLY



Tip		1" Diam.	1-1/2" Diam.	2" Diam.	2-1/2" Diam.	3" Diam.
Hardness	Color	No.	No.	No.	No.	No.
Super Soft	Gray	10-SS	15-SS	20-SS	25-SS	30-SS
Soft	Brown	10-S	15-S	20-S	25-S	30-S
Medium	Red	10-M	15-M	20-M	25-M	30-M
Tough	Green	10-T	15-T	20-T	25-T	30-T
Med. Hard	Cream	10-N	15-N	20-N	25-N	30-N
Hard	Black	10-H	15-H	20-H	25-H	30-H
Extra Hard	Yellow	10-XH	15-XH	20-XH	25-XH	30-XH



WILLIAMS' SOFT-FACE HAMMERS

With Interchangeable Tips

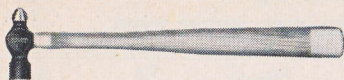
SOFT-FACE HAMMERS COMPLETE WITH TIPS

Number	Head Diam.	Tip		Weight Each	Number	Head Diam.	Tip		Weight Each
		Hardness	Color				Hardness	Color	
100-SS	1	Super Soft	Gray	5 oz.	*202-SS	2	Super Soft	Gray	2-1/2 lb.
100-S	1	Soft	Brown	5 oz.	*202-S	2	Soft	Brown	2-1/2 lb.
100-M	1	Medium	Red	5 oz.	*202-M	2	Medium	Red	2-1/2 lb.
100-T	1	Tough	Green	5 oz.	*202-T	2	Tough	Green	2-1/2 lb.
100-N	1	Med. Hard	Cream	5 oz.	*202-N	2	Med. Hard	Cream	2-1/2 lb.
100-H	1	Hard	Black	5 oz.	*202-H	2	Hard	Black	2-1/2 lb.
100-XH	1	Extra Hard	Yellow	5 oz.	*202-XH	2	Extra Hard	Yellow	2-1/2 lb.
105-SS	1	Super Soft	Gray	8 oz.	205-SS	2	Super Soft	Gray	2 lb.
105-S	1	Soft	Brown	8 oz.	205-S	2	Soft	Brown	2 lb.
105-M	1	Medium	Red	8 oz.	205-M	2	Medium	Red	2 lb.
105-T	1	Tough	Green	8 oz.	205-T	2	Tough	Green	2 lb.
105-N	1	Med. Hard	Cream	8 oz.	205-N	2	Med. Hard	Cream	2 lb.
105-H	1	Hard	Black	8 oz.	205-H	2	Hard	Black	2 lb.
105-XH	1	Extra Hard	Yellow	8 oz.	205-XH	2	Extra Hard	Yellow	2 lb.
150-SS	1-1/2	Super Soft	Gray	3/4 lb.	207-SS	2	Super Soft	Gray	3 lb.
150-S	1-1/2	Soft	Brown	3/4 lb.	207-S	2	Soft	Brown	3 lb.
150-M	1-1/2	Medium	Red	3/4 lb.	207-M	2	Medium	Red	3 lb.
150-T	1-1/2	Tough	Green	3/4 lb.	207-T	2	Tough	Green	3 lb.
150-N	1-1/2	Med. Hard	Cream	3/4 lb.	207-N	2	Med. Hard	Cream	3 lb.
150-H	1-1/2	Hard	Black	3/4 lb.	207-H	2	Hard	Black	3 lb.
150-XH	1-1/2	Extra Hard	Yellow	3/4 lb.	207-XH	2	Extra Hard	Yellow	3 lb.
*152-SS	1-1/2	Super Soft	Gray	1-1/4 lb.	250-SS	2-1/2	Super Soft	Gray	2 lb.
*152-S	1-1/2	Soft	Brown	1-1/4 lb.	250-S	2-1/2	Soft	Brown	2 lb.
*152-M	1-1/2	Medium	Red	1-1/4 lb.	250-M	2-1/2	Medium	Red	2 lb.
*152-T	1-1/2	Tough	Green	1-1/4 lb.	250-T	2-1/2	Tough	Green	2 lb.
*152-N	1-1/2	Med. Hard	Cream	1-1/4 lb.	250-N	2-1/2	Med. Hard	Cream	2 lb.
*152-H	1-1/2	Hard	Black	1-1/4 lb.	250-H	2-1/2	Hard	Black	2 lb.
*152-XH	1-1/2	Extra Hard	Yellow	1-1/4 lb.	250-XH	2-1/2	Extra Hard	Yellow	2 lb.
153-SS	1-1/2	Super Soft	Gray	1 lb.	255-SS	2-1/2	Super Soft	Gray	4 lb.
153-S	1-1/2	Soft	Brown	1 lb.	255-S	2-1/2	Soft	Brown	4 lb.
153-M	1-1/2	Medium	Red	1 lb.	255-M	2-1/2	Medium	Red	4 lb.
153-T	1-1/2	Tough	Green	1 lb.	255-T	2-1/2	Tough	Green	4 lb.
153-N	1-1/2	Med. Hard	Cream	1 lb.	255-N	2-1/2	Med. Hard	Cream	4 lb.
153-H	1-1/2	Hard	Black	1 lb.	255-H	2-1/2	Hard	Black	4 lb.
153-XH	1-1/2	Extra Hard	Yellow	1 lb.	255-XH	2-1/2	Extra Hard	Yellow	4 lb.
155-SS	1-1/2	Super Soft	Gray	1-1/4 lb.	300-SS	3	Super Soft	Gray	3-1/2 lb.
155-S	1-1/2	Soft	Brown	1-1/4 lb.	300-S	3	Soft	Brown	3-1/2 lb.
155-M	1-1/2	Medium	Red	1-1/4 lb.	300-M	3	Medium	Red	3-1/2 lb.
155-T	1-1/2	Tough	Green	1-1/4 lb.	300-T	3	Tough	Green	3-1/2 lb.
155-N	1-1/2	Med. Hard	Cream	1-1/4 lb.	300-N	3	Med. Hard	Cream	3-1/2 lb.
155-H	1-1/2	Hard	Black	1-1/4 lb.	300-H	3	Hard	Black	3-1/2 lb.
155-XH	1-1/2	Extra Hard	Yellow	1-1/4 lb.	300-XH	3	Extra Hard	Yellow	3-1/2 lb.
200-SS	2	Super Soft	Gray	1-1/2 lb.	305-SS	3	Super Soft	Gray	6 lb.
200-S	2	Soft	Brown	1-1/2 lb.	305-S	3	Soft	Brown	6 lb.
200-M	2	Medium	Red	1-1/2 lb.	305-M	3	Medium	Red	6 lb.
200-T	2	Tough	Green	1-1/2 lb.	305-T	3	Tough	Green	6 lb.
200-N	2	Med. Hard	Cream	1-1/2 lb.	305-N	3	Med. Hard	Cream	6 lb.
200-H	2	Hard	Black	1-1/2 lb.	305-H	3	Hard	Black	6 lb.
200-XH	2	Extra Hard	Yellow	1-1/2 lb.	305-XH	3	Extra Hard	Yellow	6 lb.

*Shot-loaded heads.



WILLIAMS' BALL PEIN HAMMERS



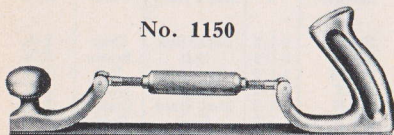
Hammers are exceptionally well balanced. They are drop-forged from specially selected steel and carefully heat-treated for uniform, dependable strength and hardness.

Handles are made from second growth white hickory, clear lacquered, and carefully fitted and permanently wedged into the head.

No.	Length	Weight
7-0	9-3/4	2 oz.
5-0	9-3/4	1/4 lb.
3-0	11-1/2	1/2 lb.
2-0	13-1/2	3/4 lb.
0	14	1 lb.
2	14-1/2	1-1/2 lbs.
4	15-1/2	2 lbs.
6	16	2-1/2 lbs.

ADJUSTABLE FILE HOLDER

No. 1150



Although light in weight, Holder is extremely rigid and comfortably balanced. File may be flexed either way to the maximum point of safety against breakage. Before flexing, the bolt which attaches blade at the rear of the Holder should be loosened.

14" STANDARD FLEXIBLE MILLED CURVED-TOOTH FILE



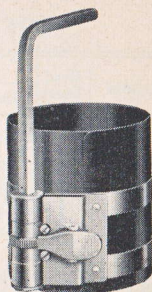
This type of file is most universally used in auto body repair work. Curved teeth are milled on both sides. These files are made from special alloy steel, precision milled and are self clearing. They leave a smooth finish. Designed for use with Williams' Adjustable File Holder No. 1150.

WILLIAMS' PISTON RING COMPRESSOR

No. RC-50

Piston Diameters
2-1/8 to 5 Inches

Has 3-1/2" high compression band of clock-spring steel. Takes all rings at one time, including skirt ring on Ford, Pontiac, Hudson, etc. Two tension bands eliminate flare-out at bottom when rings leave compressor. With beaded edge the compressor cannot enter the cylinder with the piston. Hardened ratchet is operated with a 1/4" square offset key wrench. Operating instructions included.



SCREW EXTRACTORS

Style 200



SET No. 205

1 each Williams Screw Extractors Nos. 1, 2, 3, 4 and 5.

Extractors in this set will remove broken screws 9/16" and smaller.

SET No. 206

1 each Williams Screw Extractors Nos. 1, 2, 3, 4, 5 and 6.

Extractors in this set will remove broken screws 5/8" and smaller.

Ex-tractor No.	For Use on Screw Sizes	For Use on Pipe Sizes	Diam. Small End	Size Drill to Use
1	Nos. 8 & 10	.....	.054	5/64
2	No. 12 & 1/4	.....	.080	7/64
3	5/16	.....	1/8	5/32
4	3/8	1/8	3/16	1/4
5	7/16, 1/2, 9/16	1/8 & 1/4	15/64	17/64
6	5/8	3/8	13/32	13/32
7	3/4, 7/8, 1	1/2	1/2	17/32
8	1 1/8, 1 1/4	3/4	3/4	13/16
9	1-1/2	1	1	1 1/16

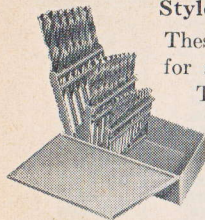


WILLIAMS' HIGH SPEED DRILLS Straight Shank—Jobbers' Length



Style H-400

These drills are suitable for all general purposes. They have bright finished margins and shanks, black flutes and black lands.



Diameter	Decimal Equivalent	Length Overall	Length of Twist
1/64	.0156	3/4	3/16
1/32	.0312	1-3/8	1/2
3/64	.0469	1-3/4	3/4
1/16	.0625	1-7/8	7/8
5/64	.0781	2	1
3/32	.0937	2-1/4	1- 1/4
7/64	.1094	2-5/8	1- 1/2
1/8	.1250	2-3/4	1- 5/8
9/64	.1406	2-7/8	1- 3/4
5/32	.1562	3-1/8	2
11/64	.1719	3-1/4	2- 1/8
3/16	.1875	3-1/2	2- 5/16
13/64	.2031	3-5/8	2- 7/16
7/32	.2187	3-3/4	2- 1/2
15/64	.2344	3-7/8	2- 5/8
1/4	.2500	4	2- 3/4
17/64	.2656	4-1/8	2- 7/8
9/32	.2812	4-1/4	2-15/16
19/64	.2969	4-3/8	3- 1/16
5/16	.3125	4-1/2	3- 3/16
21/64	.3281	4-5/8	3- 5/16
11/32	.3437	4-3/4	3- 7/16
23/64	.3594	4-7/8	3- 1/2
3/8	.3750	5	3- 5/8
25/64	.3906	5-1/8	3- 3/4
13/32	.4062	5-1/4	3- 7/8
27/64	.4219	5-3/8	3-15/16
7/16	.4375	5-1/2	4- 1/16
29/64	.4531	5-5/8	4- 3/16
15/32	.4687	5-3/4	4- 5/16
31/64	.4844	5-7/8	4- 3/8
1/2	.5000	6	4- 1/2

WILLIAMS' MASONRY DRILLS Carbide Tipped

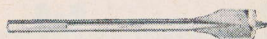


Style 300

They produce clean, accurate holes in all types of masonry materials. Tipped diameters are oversize to provide for clearance in installing anchors, expansion shields and toggle bolts.

Nom. Diam.	Actual Diam.	Extreme Length	Shank Diam.	Shank Length
1/8	.130	2-1/2	1/8	1-1/4
3/16	.198	3	3/16	1-1/4
1/4	.260	4	1/4	1-3/8
5/16	.328	4	1/4	1-1/2
3/8	.390	4	1/4	1-1/2
7/16	.458	6	3/8	1-5/8
1/2	.525	6	3/8	1-5/8
9/16	.587	6	7/16	1-5/8
5/8	.650	6	1/2	1-5/8
11/16	.713	6	1/2	1-5/8
3/4	.775	6	1/2	1-5/8
7/8	.905	6	1/2	1-5/8
1	1.030	6	1/2	1-5/8
1 1/8	1.160	6	1/2	1-5/8
1 1/4	1.285	10	1/2	1-5/8
1 1/2	1.535	10	1/2	1-5/8

WILLIAMS' POWER AUGER BITS Style 100



Can be operated at high speeds in electric drills of 1/4-inch or larger chuck capacity. Hexagon shanks prevent slipping in the chuck.



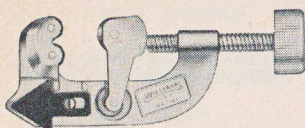
SET No. 100

Contains one each of Bits listed below in clear plastic tube.

Size	Length	Size	Length
3/8"	5-1/4	3/4"	5-1/4
1/2"	5-1/4	7/8"	5-1/4
5/8"	5-1/4	1"	5-1/4

Set Number		No. of Drills	Drill Sizes
With Drills in Folding Case	Folding Case Only		
21-H13	H-13	13	1/16 to 1/4 by 64ths
4B-H21	H-21	21	1/16 to 3/8 by 64ths
5B-H29	H-29	29	1/16 to 1/2 by 64ths
6B-H15	H-15	15	1/16 to 1/2 by 32nds

WILLIAMS' CUTTER and FLARING TOOLS

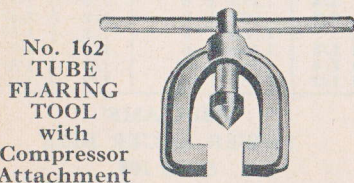


No. 161 TUBE CUTTER.

Designed for efficiency and economy, this tool will cut any copper, brass, bronze or similar tubing from 1/8 to 1" diameter. Accurately machined and assembled. Heat-treated tool steel cutter wheel has razor edge to insure a clean cut. Reamer constructed to set flush against tool when not in use, and turns to 90° angle during reaming operation. Red plastic handle and chrome-plated body and holder.

No. 161-A CUTTER WHEELS

Heat-treated, tool steel razor edge cutter wheels for No. 161 Tube Cutter.

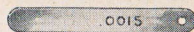


No. 162
TUBE
FLARING
TOOL
with
Compressor
Attachment



This completely redesigned hinged type flaring tool handles all popular sizes of tubing. The yoke type compressor is drop-forged and easily slips over the die block. The hardened floating cone will give an even, accurate flare and taper that will insure a tight joint. The sliding "T"-handle is 5-1/2" long for added leverage; wing nuts are large. Sizes are stamped on the respective dies. Seven threaded flaring dies with diameters for 3/16, 1/4, 5/16, 3/8, 7/16, 1/2 and 5/8 inches. Cadmium-plated finish.

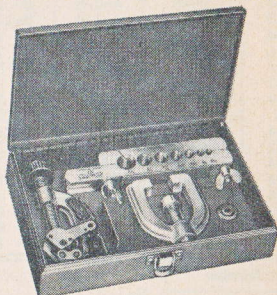
WILLIAMS' FEELER GAUGES



Made from selected Swedish Steel.
Blades are 1/2" wide.

Blade Thickness	3-5/16" Lengths Number	12" Lengths Number
.0015	G-0015	GL-0015
.002	G-002	GL-002
.003	G-003	GL-003
.004	G-004	GL-004
.005	G-005	GL-005
.006	G-006	GL-006
.007	G-007	GL-007
.008	G-008	GL-008
.009	G-009	GL-009
.010	G-010	GL-010
.011	G-011	GL-011
.012	G-012	GL-012
.013	G-013	GL-013
.014	G-014	GL-014
.015	G-015	GL-015
.016	G-016	GL-016
.017	G-017	GL-017
.018	G-018	GL-018
.020	G-020	GL-020
.022	G-022	GL-022
.024	G-024	GL-024
.025	G-025	GL-025
.028	G-028	GL-028
.030	G-030	GL-030
.032	G-032	GL-032
.035	G-035	GL-035
.040	G-040	GL-040

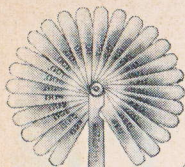
WILLIAMS' TUBE CUTTER AND FLARING TOOL SET



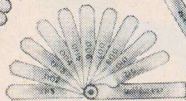
SET No. 165 In Metal Case

No. C-165 Case Only 8-1/2 x 5-1/2 x 1-5/8"
Contains one each No. 161 Tube Cutter, No. 161-A Extra Cutter Wheel and No. 162 Tube Flaring Tool with Compressor Attachment.

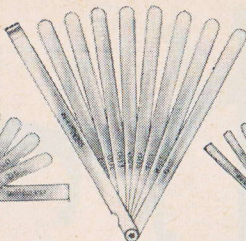
WILLIAMS' FEELER GAUGE SETS



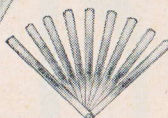
GS-1



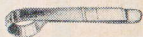
GS-2



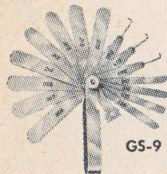
GS-3



GS-4



GS-5



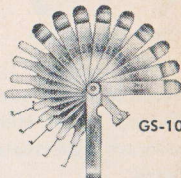
GS-6



GS-7

GS-8

GS-9



GS-10

SET No. GS-1

MASTER FEELER GAUGE

25 Blades 3-5/16 x 1/2" in the following thicknesses—.0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .018, .020, .022, .024, .025, .028, .030, .032, .035.

SET No. GS-2

STANDARD FEELER GAUGE

10 Blades 3-5/16 x 1/2" in the following, thicknesses—.002, .003, .004, .005, .006, .007, .008, .010, .012 and .015.

SET No. GS-3

COMBINATION FEELER GAUGE

10 Blades 3 x 1/2" in the following thicknesses—.002, .003, .004, .005, .006, .007, .008, .010, .013, .015; 12 Blades 1-3/4 x 1/4" in the following thicknesses—.011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .022, .025.

SET No. GS-4

PISTON FEELER GAUGE

8 Blades 9 x 1/2" in the following thicknesses—.002, .003, .004, .005, .006, .008, .010 and .015.

SET No. GS-5

BRAKE FEELER GAUGE

9 Blades 4 x 1/4" in the following thicknesses—.002, .004, .005, .006, .007, .008, .010, .012 and .015.

SET No. GS-6

IGNITION FEELER GAUGE

12 Blades 1-3/4 x 1/4" in the following thicknesses—.011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .022, .025.

SET No. GS-7

SPARK PLUG GAP GAUGE

8 90° Wires—.022, .025, .028, .030, .032, .035, .038, .040 and electrode bender.

No. GS-8

FEELER GAUGE STOCK HOLDER

4-3/4" long. Holds one 12" Blade, any thickness.

SET No. GS-9

CHEVROLET FEELER GAUGE

8 Blades 3-5/16 x 1/2" in the following thicknesses—.006, .007, .008, .010, .012, .013, .015, .020; 4 Blades 3-5/16 x 1/4" in the following thicknesses—.016, .018, .020, .022; 3 90° Wires .032, .035, .040; one electrode bender.

SET No. GS-10

SPECIAL FORD FEELER GAUGE

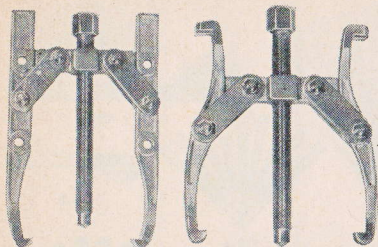
13 Step Ground GO-NO-GO Blades 3-5/16 x 1/2" in the following thicknesses—.010, .012, .011, .013, .012, .014, .013, .015, .014, .016, .015, .017, .016, .018, .017, .019, .018, .020, .019, .021, .021, .023, .024, .026, .025, .027. 4 Blades 3-5/16 x 1/4" in the following thicknesses—.015, .016, .020, .025; 2 Straight Wires—.017 and .030; 3 90° Wires—.025, .028, .035 and one electrode bender.

SET No. GS-11

COMBINATION O.H.V. FEELER GAUGE

11 Blades 3-5/16 x 1/2" in the following thicknesses—flat, .015, .016, .018, .019—offset with 45° step, .018, .019, .020, .021, .024, .025, .026. Especially useful on Ford, Mercury and Studebaker engines.

WILLIAMS' 2-JAW PULLERS



Nos. 240 and 243

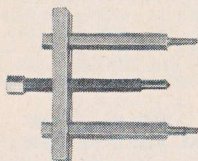
Nos. 241 and 242

Well suited to the many pulling jobs found in repair and maintenance work. Forged alloy steel, both body and jaws are heat-treated. Cadmium-plated finish.

NOTE: No. 241 has plain hook on both ends of jaws. No. 242 has slotted hooks on one end of jaws for hooking on to cap screws to remove gears and parts which have tapped holes.

No.	Maximum Spread Inches	Maximum Reach Inches	Length and Diameter of Forcing Screw
240	0 to 4	3-3/8	3/8 x 4-1/4
241	0 to 6	3-1/4	5/8 x 6
242	0 to 8	5-1/2	3/4 x 8-5/16
243	0 to 10	9	3/4 x 8-5/16

TIMING GEAR PULLER

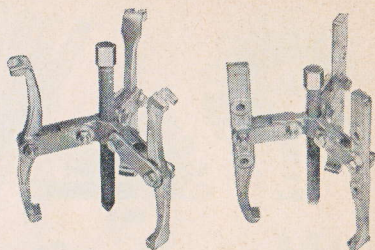


For pulling timing and other gears having tapped holes. The sliding jaws enable tool to handle gears of all widths.

The 6-1/2 inch side screws are machined to take care of the most used thread sizes, 3/8"-16 and 5/16"-18. By using standard sizes of cap screws, the use of this puller can be extended. Cadmium-plated finish.

No.	Length of Body	Length of Center Screw	Length of Side Screws
10	6-1/2	6-1/2	6-1/2

WILLIAMS' 3-JAW PULLERS



Nos. 244 and 245

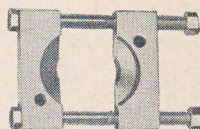
No. 246

Their popular size range adapts them to many uses on automobiles, trucks, tractors, farm equipment, airplanes, industrial machinery and equipment. Forged alloy steel, heat-treated. Cadmium-plated finish.

NOTE: No. 244 has plain hook on both ends of jaws. No. 245 has slotted hooks on one end of jaws for hooking on to cap screws to remove gears and parts which have tapped holes.

No.	Maximum Spread Inches	Maximum Reach Inches	Length and Diameter of Forcing Screw
244	0 to 6	3-1/4	5/8 x 6
245	0 to 8	5-1/2	3/4 x 8-5/16
246	0 to 10	9	3/4 x 8-5/16

BEARING SPLITTERS

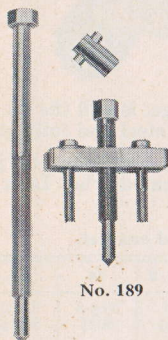


The inside of the counter-bore is machined down to nearly a sharp edge, which allows the tool to be forced back of the bearing or gear by tightening the two nuts. The bearing is separated and removed with the aid of a gear puller or arbor press. Made from alloy steel. Cadmium-plated finish.

* Pullers 242 or 243 can be used with this tool by gripping around outside.

No.	Capacity	Hole, Thread Size
501	0 to 2-1/4	3/8-16
*503	0 to 4-1/4	5/8-18

WILLIAMS' HARMONIC BALANCER Puller and Driver



No. 189

Here is a tool needed by all Chevrolet mechanics. The long hardened 11 inch center-screw enables the operator to pull the balancer without removing the motor from the chasis.

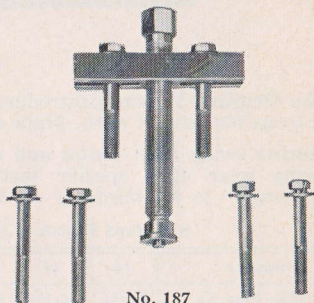
The two heat-treated hex screws are threaded back far enough to insure a firm grip when pulling operation begins.

The four inch long body enables the tool to handle the majority of all Chevrolet cars and trucks. The smaller center-screw is provided for those models not requiring the long 11 inch length.

Each kit is equipped with a driver to replace the Harmonic Balance.

Made from alloy steel. Cadmium-plated finish.

WILLIAMS' STEERING WHEEL PULLER



No. 187

Will remove steering wheels on most cars where the wheel is held by two cap screws and lock nut, such as Ford, Mercury, Lincoln, Chevrolet, Oldsmobile, Dodge, Pontiac, Plymouth, Etc.

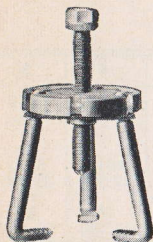
Three sets of hardened side screws: 5/16"-18, 2-3/4" long; 5/16"-24, 2-1/2" long; 3/8"-16, 2-3/4" long.

Made from alloy steel. Cadmium-plated finish.

Operating Instructions

Remove the two cap screws on the steering wheel. Turn the lock nut several times, so that it is almost out of the tube. Place the swivel on the top of the nut and respective side screws in the two side holes. The usual pulling operation is then performed.

WILLIAMS' WHEEL PULLER No. 5 For Refrigeration Service

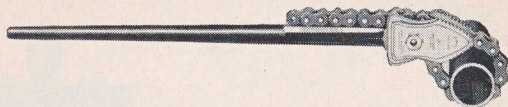


The forged body has four sockets into which two or all three arms may be placed in various positions. Flywheels with even or odd numbers of spokes are pulled with equal ease. Pulling capacity is 7" diameter. Arms are held in place by an endless spring.

No.	Capacity Diam.	Body Diam.	Length Arms
5	7	3 1/4	4 1/4



WILLIAMS' VULCAN® DROP-FORGED CHAIN PIPE TONGS



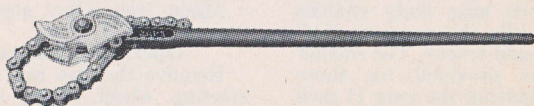
The Original Vulcan® introduced over fifty years ago, is still the oil fields' favorite tongs for general work. Made entirely of wrought steel and fully guaranteed.

Chains swing from center and can be used on either side of the jaws, thus reducing wear upon specific teeth. Each Heat-Treated Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard Finish — Jaws are orange baked enamel.

Number	10	11	12	13	13-1/2	14	15	16
Cap., Size Pipe, In....	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12	4-18
Extreme Length	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2	87
Flat Link Chain								
Length	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2	74 1/2
Breaking Strain, lbs.	5,070	9,400	13,800	17,600	20,100	22,000	31,000	56,000
Cable Chain								
Length	14 1/2	18	27	33 1/2	42	57	76	
Breaking Strain, lbs.	6,000	9,000	12,500	14,300	15,700	21,800	40,000	

WILLIAMS' VULCAN® SUPERIOR DROP-FORGED PIPE and FITTING TONGS



"V" Recess in the jaws gives a greater number of grips or "bites", both on pipe and fittings. When the teeth first in use wear, simply unscrew the bolt and turn the jaws end-for-end.

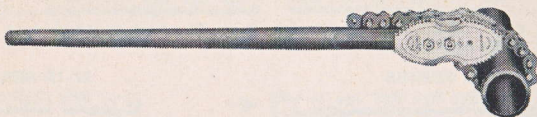
Chains—Either Heat-Treated Flat Link Chain, or Cable Chain except No. 0. Each Flat Link Chain is individually "proof-tested" to two-thirds of its breaking strain.

Made from tough wrought steel; all parts are interchangeable.

Standard Finish — Jaws are orange baked enamel.

Number	0	1	2	3	3-1/2	4	5
For Pipe and Fittings, In. ...	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12
Extreme Length	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2
Flat Link Chain,							
Length	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2
Breaking Strain, lbs.	5,070	9,400	13,800	17,600	20,100	22,000	31,000
Cable Chain,							
Length	14 1/2	18	27	33 1/2	42	57	
Breaking Strain, lbs.	6,000	9,000	12,500	14,300	15,700	21,800	

WILLIAMS' IMPROVED VULCAN® DROP-FORGED CHAIN PIPE TONGS



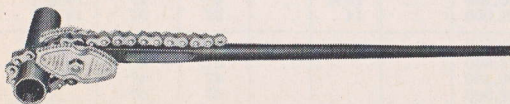
Jaws are double-ended, and are reversible. Tongs are wholly made of wrought steel and are fully guaranteed.

Chains swing from the center and can be used on either side of the jaws, thus reducing the wear upon specific teeth. Each Heat-Treated Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard Finish — Jaws are orange baked enamel.

Number	30	31	32	33	33-1/2	34	35
Capacity, Size Pipe, inches...	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12
Extreme Length.....	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2
Flat Link Chain							
Length.....	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2
Breaking Strain, lbs.....	5,070	9,400	13,800	17,600	20,100	22,000	31,000

WILLIAMS' VULCAN® REVERSIBLE DROP-FORGED PIPE and FITTINGS TONGS



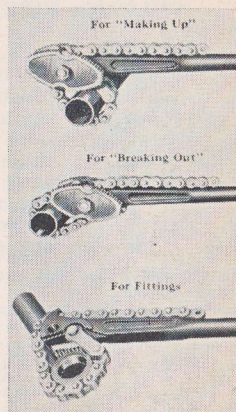
Vulcan® Reversible Tongs will turn pipe instantly in either direction without removing the tongs or loosening the chain. Made from tough wrought steel; all parts are interchangeable.

Outer jaws can be removed to make an efficient fittings tongs for narrow beads and flanges. Jaw removal is accomplished by taking out the single bolt and nut used in assembly. These outer jaws are also reversible end-for-end providing double life.

Proof-Testing. Each Heat-Treated Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard Finish — Jaws are orange baked enamel.

Number	27	37	47	57
For Pipe, size inches	1/4-2 1/2	3/4-4	1-6	1 1/2-8
Length.....	27	37	44 1/2	50 1/2
Flat Chain , length...	17 1/2	22 1/2	32	40 1/2
Breaking Strain, lbs.	13,800	17,600	20,100	22,000





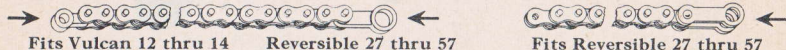
WILLIAMS' HEAT-TREATED PIPE TONG CHAINS

X-10 thru X-16 SERIES



27-5 SERIES

27-15 SERIES

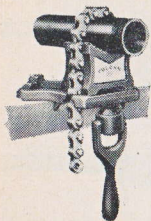


Each Chain has a swing link on each end (except 27-15 Series) to fit tongs of corresponding sizes as illustrated above and listed below.

A 40% increase in strength extends chain life and tong performance. Flat links are made from selected steel, rivets and swing links from alloy steel. Chain is heat-treated after assembly. All chains are proof-tested to two-thirds of breaking strain.

Chain No.	Lgth.	Breaking Strain Lbs.	Williams				Billings	Armstrong		Gearench	
			Superior	Vulcan	Improved	Reversible	Reversible	One Jaw	Two Jaw	Titan	Titan Reversible
X-10	9½	5,070	0	10	30	..	..	10	30	10	..
X-11	13½	9,400	1	11	31	..	..	11	31	11	..
X-12	17½	13,800	2	12	32	..	..	12	32	12	..
X-13	22½	17,600	3	13	33	..	..	13	33	13	..
X-13½	32	20,100	3½	13½	33½	..	..	13½	33½	13½	..
X-14	40½	22,000	4	14	34	..	..	14	34	14	..
X-15	55½	31,000	5	15	35	..	..	15	35	15	..
X-16	74½	56,000	..	16	..	..	..	16	..	16	..
27-5	17½	13,800	..	12	..	27	27	12	..	12	27
37-5	22½	17,600	..	13	..	37	37	13	..	13	37
47-5	32	20,100	..	13½	..	47	47	13½	..	13½	47
57-5	40½	22,000	..	14	..	57	57	14	..	14	57
27-15	17½	13,800	..	..	..	27	27	..	..	..	27
37-15	22½	17,600	..	..	..	37	37	..	..	..	37
47-15	32	20,100	..	..	..	47	47	..	..	..	47
57-15	40½	22,000	..	..	..	57	57	..	..	..	57

VULCAN® PIPE VISES

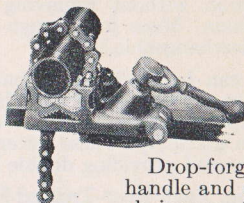


Drop-forged jaws saw-tempered for file-sharpening. The chains are of the same quality as those of our Vulcan® Chain Pipe Tongs. Suitable for fastening to bench or post.

Standard Industrial gray finish with orange panel.

No.	For Pipe Sizes
1	1/8 to 2-1/2
2	1/4 to 4
3	1/4 to 6
4	1/4 to 8

VULCAN® SUPERIOR PIPE VISES



Handle is on top for easy operation. Reversible jaws provide longer life.

Drop-forged base, jaws, handle and chain-arm. The chains are of the same quality as those of our Vulcan® Chain Pipe Tongs.

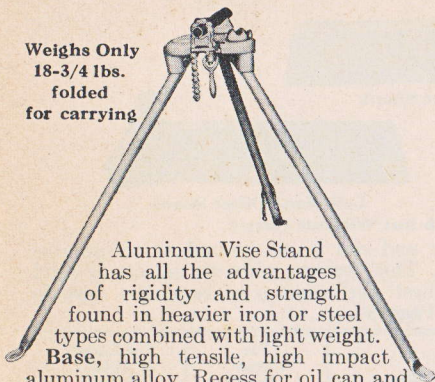
Standard Industrial gray finish with orange panel.

No.	For Pipe, Sizes
11	1/8 to 2-1/2
12	1/4 to 4-1/2



WILLIAMS' VULCAN® ALUMINUM VISE STAND

Weights Only
18-3/4 lbs.
folded
for carrying



Aluminum Vise Stand has all the advantages of rigidity and strength found in heavier iron or steel types combined with light weight.

Base, high tensile, high impact aluminum alloy. Recess for oil can and handy slots for tools are provided in addition to the "V" pipe support in rear.

Pipe Benders, One handles pipe up to 1/2", the other up to 3/4"

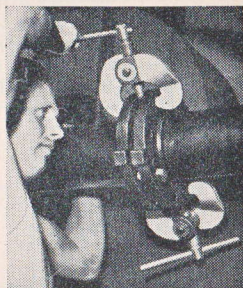
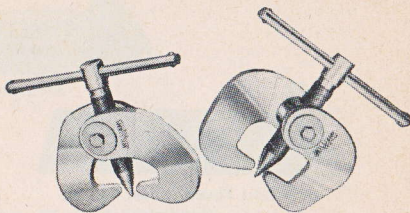
Legs, Aluminum alloy tubing. Feet are punched for fastening to floor. Legs may be folded and tied together with permanently attached chain.

Vise is Vulcan® No. 1 as described on page 74.

Finish—entire assembly has satin aluminum finish.

Vise Stand No.	For Pipe Sizes
AV-1	1/8 to 2-1/2

WILLIAMS' FLANGE-JACKS



For Fast, Safe, Easy Gasket Replacement

Operating with a minimum of effort, FLANGE-JACKS exert tremendous pressure smoothly and evenly. The flanges are parted quickly and held in perfect alignment without damage to flange faces.

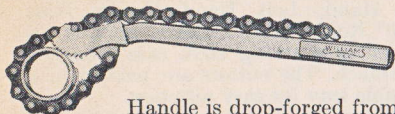
There is no shock along the pipe line, no danger from flying wedges and no sparks are caused by hammer blows. FLANGE-JACKS eliminate costly shutdowns, making possible fast, economical repairs in hard-to-get-at locations.

Technical data sheet covering Flange-Jacks capacities for all standard flange faces in various pipe classes and the dimensional limitations of special flanges available on request. Table below indicates capacities for standard raised face flanges in widely used cast iron and steel pipe classes.

Sold in Pairs Only

No.	Capacity—Standard Raised Face Flanges			
	125 lb. Cast Iron	150 lb. Steel	250 lb. Cast Iron	300 lb. Steel
20	2" to 20"	2" to 20"	1" to 12"	3/4" to 12"
30	16" to 48"	18" to 24"	12" to 30"	12" to 24"

WILLIAMS' CHAIN WRENCH



Handle is drop-forged from Selected Alloy Steel, heat-treated and chrome-plated.

Successive bites can be taken without removing the wrench from the work.

Ideal for use on close quarter applications in industry, farm and home.

No.	Capacity	Length
CW-4	3/8 to 4" O.D.	11



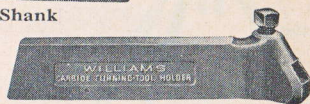
WILLIAMS' CARBIDE TURNING-TOOL HOLDERS



Straight Shank



Right Hand Offset Shank

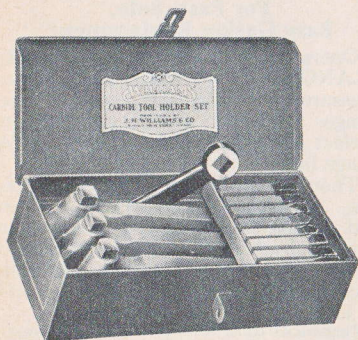


Left Hand Offset Shank

Furnished With Wrench but Without Cutter

The Cutter is held parallel to the shank and can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented carbide cutters. For square Carbide Cutters, See Page 84.

Straight Shank	Number		Holder, Size	For Cutter, Size Square	For Lathes of Approx. Swing, Inches
	Offset Shank				
	Right Hand	Left Hand			
T-0-S	T-0-R	T-0-L	3/8 x 15/16 x 6	1/4	9 to 10
T-1-S	T-1-R	T-1-L	1/2 x 1-1/4 x 7	5/16	11 to 14
T-2-S	T-2-R	T-2-L	5/8 x 1-1/2 x 8	3/8	14 to 16
T-3-S	T-3-R	T-3-L	3/4 x 1-3/4 x 9	7/16	16
T-4-S	T-4-R	T-4-L	7/8 x 1-7/8 x 10	1/2	18
T-5-S	T-5-R	T-5-L	1 x 2-1/8 x 12	5/8	20 to 24



WILLIAMS' CARBIDE TURNING-TOOL HOLDER SETS

The five Williams' Carbide Turning-Tool Holder Sets each contain one Straight Shank, one Right-Hand Offset and one Left-Hand Offset Carbide Turning-Tool Holder; eight Carbide-Tipped Turning Cutter Bits—four Grade C-2 with shanks lacquered gray for non-ferrous metals and four Grade C-6 with shanks lacquered orange for steel. Both grades are furnished with one each Right Hand, Left Hand, Square Nose and 80° Round Nose Cutters. Each set is furnished in a strong steel case complete with wrench. The cutters are packed in a removable tray for easy selection.

Set No.	For Lathes of Approx. Swing Inches	Straight Shank No.	Offset Shank		Size of Holder Shank	Cutter Size Sq. Ins.	Carbide Grade C-2 Gray Shanks				Carbide Grade C-6 Orange Shanks			
			R.H. No.	L.H. No.			R.H. No.	L.H. No.	Sq. Nose No.	80° Rd. Nose No.	R.H. No.	L.H. No.	Sq. Nose No.	80° Rd. Nose No.
M-0A	9-10	T-0-S	T-0-R	T-0-L	3/8x15/16	1/4	AR-4	AL-4	C-4	D-4	AR-4	AL-4	C-4	D-4
M-1A	11-14	T-1-S	T-1-R	T-1-L	1/2x1-1/4	5/16	AR-5	AL-5	C-5	D-5	AR-5	AL-5	C-5	D-5
M-2A	14-16	T-2-S	T-2-R	T-2-L	5/8x1-1/2	3/8	AR-6	AL-6	C-6	D-6	AR-6	AL-6	C-6	D-6
M-3A	16	T-3-S	T-3-R	T-3-L	3/4x1-3/4	7/16	AR-7	AL-7	C-7	D-7	AR-7	AL-7	C-7	D-7
M-4A	18	T-4-S	T-4-R	T-4-L	7/8x1-7/8	1/2	AR-8	AL-8	C-8	D-8	AR-8	AL-8	C-8	D-8



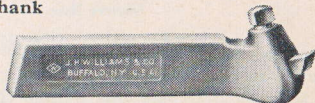
WILLIAMS' TURNING-TOOL HOLDERS



Straight Shank



Right Hand Offset Shank



Left Hand Offset Shank

Furnished With Cutter and Wrench

Specially heat-treated and hardened, these Holders have a chamfered nose permitting convenient use in cramped quarters. The long, accurate cutter channel provides a true, rigid cutter seat eliminating chatter, and the breaking of high speed steel bits. Maximum efficiency in cutter fastening is achieved by the use of Alloy Steel Set Screws accurately machined, heat-treated and hardened. H. S. Cutters furnished in a "diamond point" form that requires a minimum of grinding.

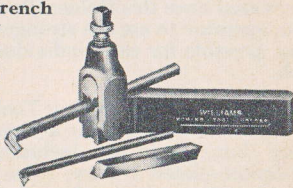
Number			Holder, Size	Cutter Size, Square	For Lathes of Approx. Swing, Inches
Straight Shank	Offset Shank				
	Right Hand	Left Hand			
000-S	000-R	000-L	5/16 x 1/2 x 4	3/16	6 to 7
00-S	00-R	00-L	5/16 x 3/4 x 4 1/2	3/16	7 to 10
0-S	0-R	0-L	3/8 x 7/8 x 5	1/4	10 to 12
1-S	1-R	1-L	1/2 x 1 1/8 x 6	5/16	14 to 16
2-S	2-R	2-L	5/8 x 1 3/8 x 7	3/8	16 to 18
3-S	3-R	3-L	3/4 x 1 5/8 x 8	7/16	18 to 20
4-S	4-R	4-L	7/8 x 1 3/4 x 9	1/2	24 to 36
5-S	5-R	5-L	1 x 2 x 11	5/8	.....
6-S	6-R	6-L	1 1/4 x 2 1/4 x 13	3/4	.....

WILLIAMS' LIGHT BORING-TOOL HOLDERS

Furnished with 2 Bars, 1 Square Cutter and Wrench

BORING. Each tool will hold a number of sizes of Bars; two, varying 1/8" in diameter, are supplied with each Holder. The Bars are High Speed Steel, carefully hardened and ground, ready for use.

TURNING. The Holder, with offset shank, is reversible for right and left hand work. The self-adjusting gib allows the yoke to clear the end of the Holder. A hardened High Speed Steel square Cutter with ends beveled to a "diamond point" for easy grinding to desired form, is supplied with each tool.



No.	Holder, Size Shank	With Each Holder		For Lathes of Approx. Swing, Inches
		2 Bars High Speed Steel Diam.	1 High Speed Square Cutter	
15	3/8 x 3/4	1/8 and 1/4	1/4	9 to 10
16	1/2 x 1	3/16 and 5/16	5/16	11 to 14
17	5/8 x 1-1/4	1/4 and 3/8	3/8	14 to 16
18	3/4 x 1-1/2	5/16 and 7/16	7/16	16

EXTRA BORING BARS

No.	8140	8141	8142	8143	8144	8145
Size	1/8 x 4	3/16 x 4-1/2	1/4 x 5	5/16 x 6	3/8 x 7	7/16 x 8
For Holders...	15 & 16	15 to 17	15 to 17	15 to 18	16 to 18	17 & 18



WILLIAMS' BORING-TOOL HOLDERS



Sleeve Bar

Furnished with either Sleeve or Plain Bar,
1 each 45° and 90° Cutter and Wrenches.

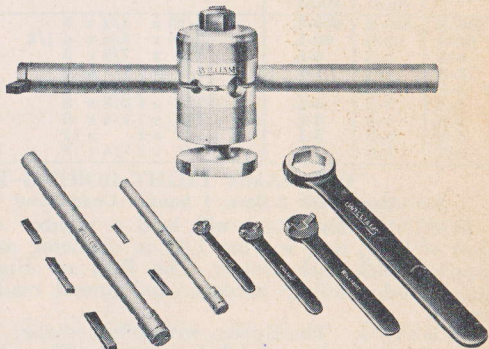
Each Boring Tool holds securely many sizes of Bars without requiring bushings or sleeves. Any size Bar within the capacity of the Holder can be inserted instantly; no lost time looking for loose parts.

Standard size Sleeve Bar will be supplied, unless otherwise specified.

No.	Holder, Size	Holder, Capacity for Bars, Size Diameter	Standard Bar, Size Diameter	For Lathes of Approx. Swing, Inches
00B	5/16 x 3/4	3/16 to 1/2	1/2	6 to 8
8	3/8 x 7/8	1/4 to 5/8	5/8	9 to 10
9	1/2 x 1-1/8	1/4 to 3/4	3/4	11 to 14
10	5/8 x 1-3/8	3/8 to 15/16	15/16	14 to 16
11	3/4 x 1-5/8	1/2 to 1-1/8	1-1/8	16
12	7/8 x 1-3/4	1-5/16	1-5/16	18

WILLIAMS' 3-BAR BORING TOOLS

Each Holder accommodates three sizes of Bars. Speedy changes can be made by a slight turn of the nut which releases or secures both Bar and Holder instantly. Speeds and feeds can be increased since this Holder allows the operator to use the strongest bar possible for each individual job.



Williams' 3-Bar Boring Tools are packed complete in a separate box, each set including cadmium-plated Holder; three Sleeve Bars each with one 45° and one 90° high speed cutter and wrench; and one wrench for Holder nut.

* 3/8 x 7" Solid Bar as listed under "Extra Boring Bars" on page 77.

The "T" Slot Bolt Head and Bottom Part of Holders are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra net charge for each Holder will be made.

No.	For Lathes of Swing, Inches	Diameter Bars	Length of Bars	Size Cutters, Square
0-BB	8 to 10	3/8, 1/2, 3/4	7, 7-5/8, 11	* , 3/16, 1/4
1-B	12 to 16	1/2, 3/4, 1-1/8	7-5/8, 11, 16	3/16, 1/4, 3/8
2-B	16 to 18	5/8, 15/16, 1-5/16	9-1/8, 13-1/4, 19	3/16, 5/16, 3/8
3-B	20 to 22	3/4, 1-1/8, 1-1/2	11, 16, 23-1/4	1/4, 3/8, 7/16
4-B	24 to 32	15/16, 1-5/16, 1-13/16	13-1/4, 19, 27-1/4	5/16, 3/8, 1/2



WILLIAMS' BORING BARS AND CUTTERS



Sleeve Bar



Plain Bar

Furnished with Two Cutters and Wrench

Boring-Bars, Approximate Size				For Use With Holders No.	Cutters	
Sleeve		Plain			Size Square and Length	For Use at Angles of
No.	Size	No.	Size			
0B	1/2 x 7-5/8	0B-X	1/2 x 8-1/8	00B thru 11	3/16x1	90°
08	5/8 x 9-1/8	08-X	5/8 x 10-1/8	0-BB and 1-B	3/16x2	45°
09	3/4 x 11	09-X	3/4 x 12-1/8	8 thru 11	3/16x1	90°
010	15/16 x 13-1/4	010-X	15/16 x 14-1/8	2-B	3/16x2	45°
011	1- 1/8 x 16	011-X	1- 1/8 x 16-3/4	9 thru 11	1/4 x1-7/32	90°
012	1- 5/16 x 19	012-X	1- 5/16 x 20	0-BB, 1-B and 3-B	1/4 x2-1/2	45°
013	1- 1/2 x 23-1/4	013-X	1- 1/2 x 23-1/2	10 and 11	5/16x1-7/16	90°
014	1-13/16 x 27-1/4	014-X	1-13/16 x 28	2-B and 4-B	5/16x2-1/2	45°
015	2- 1/4 x 33	015-X	2- 1/4 x 34	11	3/8x1-13/16	90°
				1-B and 3-B	3/8 x3	45°
				12	3/8 x2-1/16	90°
				2-B and 4-B	3/8 x3	45°
				3-B	7/16x2-3/16	90°
				4-B	7/16x3-1/2	45°
					1/2 x2-1/2	90°
					1/2 x4	45°
					5/8 x3	90°
					5/8 x4-1/2	45°

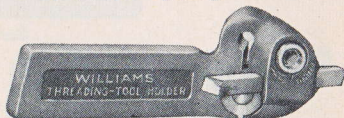
WILLIAMS' THREADING-TOOL HOLDER Formed Cutter Pattern



**Furnished with Finished
Cutter and Wrench**

In re-sharpening the Cutter, it is necessary to grind its top edge only. The point will always retain proper form and angle. H.S. Cutter is ground to an included angle of 60°, backed off for proper clearance. Rear, flat edge is eccentrically formed; hardened stop screw provides accurate adjustment.

WILLIAMS' THREADING-TOOL HOLDERS Lockable-Spring Pattern



**Furnished with Finished
Cutter and Wrench**

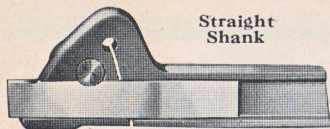
For fine and coarse threading. Nut provides for rigid backing required for heavy cuts; when loosened, Holder becomes a spring-tool for finishing work. Equally efficient as a Turning-tool. Each end of H.S. Cutter is ground, the "V" point forming either an angle of 60° for U. S., or 55° for Whitworth Std. threads.

No.	Holder, Size	Cutter No.	Lathes of Approx. Swing In.
00-T	5/16 x 3/4 x 5	8151	7 to 10
50	3/8 x 7/8 x 5	8151	10 to 12
51	1/2 x 1 1/8 x 5 3/4	8153	14 to 16
52	5/8 x 1 3/8 x 7	8155	16 to 18
53	3/4 x 1 5/8 x 8	8157	18 to 20

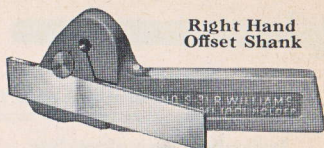
No.	Holder, Size	Cutter Size, Square	Lathes of Approx. Swing In.
S-50	1/8 x 7/8 x 5 1/4	1/4	10 to 12
S-51	5/2 x 1 1/8 x 6	5/16	14 to 16
S-52	3/8 x 1 3/8 x 7	3/8	16 to 18



WILLIAMS' SPRING CUTTING-OFF TOOL HOLDERS



Straight
Shank



Right Hand
Offset Shank

Furnished with Finished Cutter and Wrench

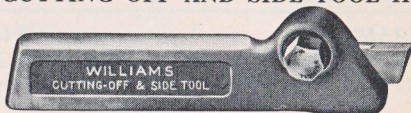
These Spring Tools make comparatively simple all lathe cutting-off work. Due to the "goose neck" form of the Holder, the Cutter Blade is relieved of excess pressure; no chattering, no "climbing" of the work on the tool—the real cause of nearly all breakage of cutting-off tools. Particularly efficient with automatic feed.

Cutter Blades are High Speed Steel, hardened and ground on one end ready for use. They are interchangeable in Holders of corresponding size listed below.

Straight Shank Holders will be furnished, unless otherwise specified.

Number		Holder, Size	Cutter Blades, High Speed Steel, Finished Size	For Lathes of Approx. Swing, Inches
Straight Shank	Offset Shank, Right Hand			
.....	S-30-RA ^a	3/8 x 13/16	3/32 x 5/8	9 to 10
S-20	S-30-R	3/8 x 31/32	3/32 x 5/8	9 to 10
S-21	S-31-R	1/2 x 1-3/16	1/8 x 3/4	11 to 14
S-22	S-32-R	5/8 x 1-3/8	1/8 x 7/8	14 to 16
S-23	S-33-R	3/4 x 1-5/8	3/16 x 1	16

WILLIAMS' CUTTING-OFF AND SIDE-TOOL HOLDERS



Straight Shank



Right Hand



Left Hand

Offset Shanks

Furnished with Finished Cutter and Wrench

One Holder takes **both** Cutting-off and Side Blades. The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. Cutter Blades described above.

Cutting-off Blade will be furnished, unless otherwise specified.

Number			Holder, Size	Cutter Blades, High Speed Steel, Finished Size		For Lathes of Approx. Swing, Inches
Straight Shank	Offset Shank			Cutting Off Blade	Side Blade	
	Right Hand	Left Hand				
19	29-R	29-L	5/16 x 13/16	3/32 x 1/2	1/8 x 1/2	6 to 8
20	30-R	30-L	3/8 x 31/32	3/32 x 5/8	5/32 x 5/8	9 to 10
21	31-R	31-L	1/2 x 1-3/16	1/8 x 3/4	3/16 x 3/4	11 to 14
22	32-R	32-L	5/8 x 1-3/8	1/8 x 7/8	1/4 x 7/8	14 to 16
23	33-R	33-L	3/4 x 1-5/8	3/16 x 1	5/16 x 1	16
24	34-R	34-L	7/8 x 1-3/4	3/16 x 1-1/8	3/8 x 1-1/8	18
25	35-R	35-L	7/8 x 1-3/4	1/4 x 1-1/8	.....	18



WILLIAMS' KNURLING-TOOL HOLDERS

Nos. 00-K to 2-K with
Self-Centering Head and
One Pair of Knurls



Nos. 3-K-0 to 3-K-2 with
Revolving Head and
Three Pairs of Knurls



00-K to 2-K, with self-centering head, are fitted with ONE pair of Knurls, fine, medium or coarse: Unless otherwise specified, Medium Diamond Knurls will be supplied.

3-K-0 to 3-K-2 carry THREE pairs of Knurls, fine, medium and coarse. Fitted in revolving head for use as desired, without loss of time in changing from one grade of knurling to another.

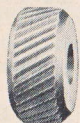
No.	Holder, Size	Standard Knurls, Size		Hole	For Lathes of Approx. Swing, Inches
		Diam.	Face		
SELF-CENTERING HEAD — ONE PAIR OF KNURLS					
00-K	5/16 x 3/4 x 5	5/8	3/16	7/32	7 to 10
0-K	3/8 x 7/8 x 5-1/2	5/8	3/16	7/32	10 to 12
1-K	1/2 x 1-1/8 x 6-5/8	3/4	1/4	1/4	14 to 16
2-K	5/8 x 1-3/8 x 7-1/2	3/4	1/4	1/4	16 to 18
REVOLVING HEAD — THREE PAIRS OF KNURLS					
3-K-0	3/8 x 7/8 x 5-1/2	5/8	3/16	7/32	10 to 12
3-K-1	1/2 x 1-1/8 x 6-5/8	3/4	1/4	1/4	14 to 16
3-K-2	5/8 x 1-3/8 x 6-5/8	3/4	1/4	1/4	16 to 18

WILLIAMS' KNURLS FOR KNURLING-TOOL HOLDERS

DIAMOND PATTERN

STRAIGHT-LINE PATTERN

Sold
In Pairs



Coarse
14 Pitch



Medium
21 Pitch



Fine
33 Pitch



Coarse
14 Pitch



Medium
21 Pitch



Fine
33 Pitch

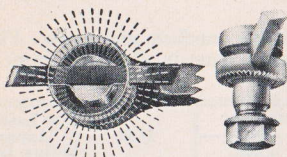
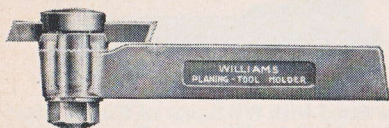
Note: "Pitch" means number of teeth per linear inch.

Knurl No.	For Knurling Tool No.	Pitch	Knurls, Size			
			Diameter	Thickness	Face	Hole
DIAMOND PATTERN						
8227	00-K, 0-K, 3-K-0	Fine	5/8	5/16	3/16	7/32
8224	00-K, 0-K, 3-K-0	Medium	5/8	5/16	3/16	7/32
8221	00-K, 0-K, 3-K-0	Coarse	5/8	5/16	3/16	7/32
8228	1-K, 2-K, 3-K-1, 3-K-2	Fine	3/4	3/8	1/4	1/4
8225	1-K, 2-K, 3-K-1, 3-K-2	Medium	3/4	3/8	1/4	1/4
8222	1-K, 2-K, 3-K-1, 3-K-2	Coarse	3/4	3/8	1/4	1/4
STRAIGHT-LINE PATTERN						
8267	00-K, 0-K, 3-K-0	Fine	5/8	5/16	3/16	7/32
8264	00-K, 0-K, 3-K-0	Medium	5/8	5/16	3/16	7/32
8261	00-K, 0-K, 3-K-0	Coarse	5/8	5/16	3/16	7/32
8268	1-K, 2-K, 3-K-1, 3-K-2	Fine	3/4	3/8	1/4	1/4
8265	1-K, 2-K, 3-K-1, 3-K-2	Medium	3/4	3/8	1/4	1/4
8262	1-K, 2-K, 3-K-1, 3-K-2	Coarse	3/4	3/8	1/4	1/4



WILLIAMS' PLANING-TOOL HOLDERS

Furnished with Cutter and Wrench



The serrations in Holder provide maximum number of cutter adjustments.

Tools provide 24 different angles of cutter adjustment. Excellent as an offset turning tool or "goose neck".

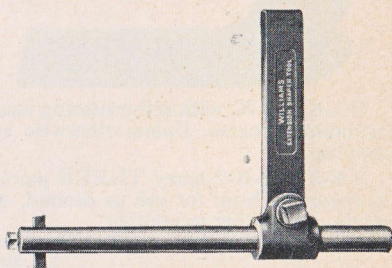
Construction assures perfect seat and holding qualities for the cutters; the convex face of clamp nut provides uniform locking pressure.

The serrated washer, or adjustment ring, which sustains the fastening and working strains, is hardened and tempered. If it wears in long service, a new ring *only* is required—not a complete Holder.

No.	Holder, Size	Cutter, Size
40	1/2 x 1 x 7	1/4 x 3/8
401	5/8 x 1-1/4 x 8-1/2	5/16 x 7/16
41	3/4 x 1-1/2 x 10-1/4	3/8 x 1/2
42	1 x 1-3/4 x 13-1/4	1/2 x 3/4
43	1-3/8 x 2 x 16-1/2	5/8 x 7/8
44	1-3/4 x 2-3/8 x 19	3/4 x 1
45	2-1/8 x 2-3/4 x 22	7/8 x 1-1/8

WILLIAMS' EXTENSION SHAPER TOOLS

Furnished with Bar, Cutter and Wrench



The design and extreme rigidity of this Shaper Tool adapt it for cutting internal keyways, die work or any type of shaper work where extra clearance is needed.

No.	Holder, Size	Size Bar	Cutter, Size Sq.
*46	3/8 x 7/8	1/2 x 7-1/2	3/16
47	1/2 x 1-1/8	3/4 x 10	5/16
48	5/8 x 1-3/8	15/16 x 12	3/8

* Instead of Split Collar as illustrated, bar is held by two hollow set screws.

EXTRA BARS AND BUSHINGS

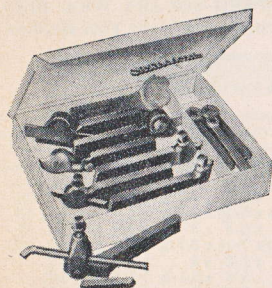
Each Bar furnished with one Bushing, High Speed Cutter and Wrench.

When ordering, please furnish number of tool or Holder size in which bar is to be used, otherwise bushing will not be included.

No.	Size Bar	Cutter, Size Square	With Bushing to Fit Holder Number	Without Bushing Fits Holder Number
0530	1/2 x 7-1/2	3/16	47 and 48	46
0532	5/8 x 8-1/2	1/4	47 and 48	..
0597	3/4 x 10	5/16	48	47
0598	15/16 x 12	3/8	.....	48



WILLIAMS' "HOME-CRAFT" TOOL HOLDERS



Holders also sold individually

SET No. 8H—In Metal Case 8 Home Craft Tool Holders and 3 Wrenches

Set covers all lathe operations—Turning, Cutting-Off, Boring, Threading, Knurling—on small lathes 7 to 10" swing.

Holders, drop-forged from selected steel, are heat-treated and hardened. Nose of Holders chamfered permitting use in cramped quarters. High Speed Steel Cutters and Cutting-Off Blades are hardened and ground ready for use.

The Threading-Tool Holder is supplied with a Formed Cutter, the point of which is ground to an included angle of 60°. In re-sharpening, grind the top edge only; Cutter will retain its proper form and angle.

The Boring-Tool is furnished with Bar 1/4" round by 5" long, point offset and ground; and 1/4" square turning cutter.

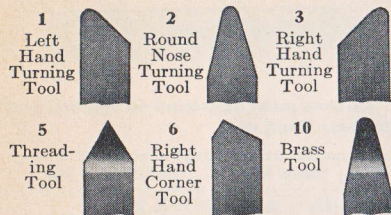
The Knurling-Tool is fitted with "Diamond" pattern Knurls for medium work (21 pitch). Knurls for fine (33 pitch) or coarse (14 pitch) work are available. "Straight Line" Knurls can also be furnished.

* All finished, ready for use.

No.	Tool Holder	Size Shank	Cutter; High Speed Steel
2010-S	Turning—Straight Shank.....	3/8 x 13/16	1/4 Square
2010-R	" R. H. Offset Shank.....	3/8 x 13/16	1/4 Square
2010-L	" L. H. Offset Shank.....	3/8 x 13/16	1/4 Square
2040	Knurling.....	3/8 x 3/4	*Medium
2020-S	Cut-Off—R. H. Straight Shank.....	3/8 x 13/16	*3/32 x 5/8
2020-R	" — R. H. Offset Shank.....	3/8 x 13/16	*3/32 x 5/8
2050	Threading—with Formed Cutter.....	3/8 x 3/4	*Formed
2030	Boring—Reversible—R. or L. Hand.....	3/8 x 3/4	{ 1/4 Square *1/4 rd. x 5

SET No. 6-HC Set of 6 "HOME-CRAFT" HIGH SPEED CUTTERS

In Cardboard Box



Sold in Set Only

Cutters, 1/4" square, are made of High Speed Steel carefully ground to shape and hardened. This set cares for practically all lathe needs of school and home workers.



WILLIAMS' "HOME-CRAFT" LATHE DOGS

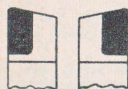
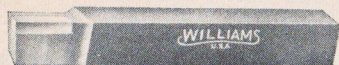
These lathe dogs are drop-forged—not cast—especially for home-craft work; screws are hardened.

† Opening in each Dog is 1/16" over listed "Capacity" to easily accommodate rough or irregular pieces.

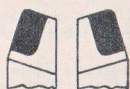
Number	† Capacity
72-H	1/2
73-H	3/4
74-H	1
76-H	1-1/2



WILLIAMS' CARBIDE TIPPED TURNING CUTTER BITS



AR AL
Straight Turning
No Lead Angle



BR BL
Lead Angle Tools
15° Lead Angle



C
Square
Nose



D
80°
Pointed Nose



E
60°
Threading

Available in two grades to fit square holders. Grade C-2 with Gray shanks is designed for machining cast iron, brass, bronze, aluminum and non-metals. Grade C-6 with Orange shanks is designed for machining steel.

Please specify Grade desired when ordering.

* Not available in Grade C-2.

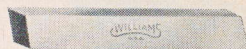
Straight Turning No Lead Angle		Shank Size
R.H.	L.H.	
AR-4	AL-4	1/4 x 1/4 x 1-1/2
AR-5	AL-5	5/16 x 5/16 x 2-1/4
AR-6	AL-6	3/8 x 3/8 x 2-1/2
AR-7	AL-7	7/16 x 7/16 x 3
AR-8	AL-8	1/2 x 1/2 x 3-1/2
AR-10	AL-10	5/8 x 5/8 x 4

Lead Angle Tools 15° Lead Angle		Shank Size
R.H.	L.H.	
BR-4	BL-4	1/4 x 1/4 x 1-1/2
BR-5	BL-5	5/16 x 5/16 x 2-1/4
BR-6	BL-6	3/8 x 3/8 x 2-1/2
BR-7	BL-7	7/16 x 7/16 x 3
BR-8	BL-8	1/2 x 1/2 x 3-1/2
BR-10	BL-10	5/8 x 5/8 x 4

Square Nose	80° Pointed Nose	60° Thread'd Tool	Shank Size
	D-4	E-4	
C-4	D-4	E-4	1/4 x 1/4 x 1-1/2
C-5	D-5	E-5	5/16 x 5/16 x 2-1/4
C-6	D-6	E-6	3/8 x 3/8 x 2-1/2
C-7	D-7	E-7	7/16 x 7/16 x 3
C-8	D-8	E-8	1/2 x 1/2 x 3-1/2
C-10	D-10	*E-10	5/8 x 5/8 x 4

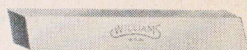
WILLIAMS' GROUND TOOL CUTTERS

HIGH SPEED SQUARE TOOL BITS
For Turning and Light Tool Holders



No.	Cutter Size	To Fit Holder Nos.
2376	3/16 x 3/16 x 2-1/2	000-S, 000-R, 000-L, 00-S, 00-R, 00-L
2377	1/4 x 1/4 x 2-1/2	0-S, 0-R, 0-L, 15
2378	5/16 x 5/16 x 2-1/2	1-S, 1-R, 1-L, 16
2379	3/8 x 3/8 x 3	2-S, 2-R, 2-L, 17
2380	7/16 x 7/16 x 3-1/2	3-S, 3-R, 3-L, 18
2381	1/2 x 1/2 x 4	4-S, 4-R, 4-L
2382	5/8 x 5/8 x 4-1/2	5-S, 5-R, 5-L
2383	3/4 x 3/4 x 5	6-S, 6-R, 6-L

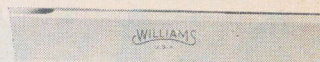
H. S. COBALT SQUARE TOOL BITS
For Turning and Light Boring Tool Holders



No.	Cutter Size	To Fit Holder Nos.
2388	3/16 x 3/16 x 2-1/2	000-S, 000-R, 000-L, 00-S, 00-R, 00-L
2389	1/4 x 1/4 x 2-1/2	0-S, 0-R, 0-L, 15
2390	5/16 x 5/16 x 2-1/2	1-S, 1-R, 1-L, 16
2391	3/8 x 3/8 x 3	2-S, 2-R, 2-L, 17
2392	7/16 x 7/16 x 3-1/2	3-S, 3-R, 3-L, 18
2393	1/2 x 1/2 x 4	4-S, 4-R, 4-L
2394	5/8 x 5/8 x 4-1/2	5-S, 5-R, 5-L
2395	3/4 x 3/4 x 5	6-S, 6-R, 6-L

CUTTING-OFF BLADES

For Straight, Right and Left Hand
Cutting-Off Tool Holders



Cutters must be ground on opposite end
for Left Hand use.

No.	Cutter Size	To Fit Holder Nos.
2410	3/32x 1/2x4-1/2	19, 29-R, 29-L
2411	3/32x 5/8x5	20, 30-R, S-30-RA, S-20, S-30-R, 30-L, 2020-S, 2020-R
2412	1/8 x 3/4x5	21, 31-R, 31-L, S-21, S-31-R
2413	1/8 x 7/8x6	22, 32-R, 32-L, S-22, S-32-R
2414	3/16x1 x6-1/2	23, 33-R, 33-L, S-23, S-33-R
2415	3/16x1-1/8x7	24, 34-R, 34-L
2416	1/4 x1-1/8x7	25, 35-R, 35-L



WILLIAMS' HIGH SPEED TOOL CUTTERS

All Cutters Hardened. Require minimum of grinding

FOR TURNING and LIGHT BORING TOOL HOLDERS



No.	Cutter Size	To Fit Tool Holder Nos.
2301	3/16 x 3/16 x 2	000-S, 000-R, 000-L, 00-S, 00-R, 00-L
2302	1/4 x 1/4 x 2-1/2	0-S, 0-R, 0-L, 15
2303	5/16 x 5/16 x 2-1/2	1-S, 1-R, 1-L, 16
2304	3/8 x 3/8 x 3	2-S, 2-R, 2-L, 17
2305	7/16 x 7/16 x 3-1/2	3-S, 3-R, 3-L, 18
2306	1/2 x 1/2 x 4	4-S, 4-R, 4-L
2307	5/8 x 5/8 x 4-1/2	5-S, 5-R, 5-L
2308	3/4 x 3/4 x 5	6-S, 6-R, 6-L

FOR STRAIGHT, R and L HAND CUTTING-OFF TOOL HOLDERS



Straight and Right Hand		Left Hand		Cutter Size
No.	To Fit Holders	No.	Holder	
2401	19, 29-R	2451	29-L	3/32x 1/2x4-1/2
2402	20, 30-R, S-30-RA, S-20, S-30-R, 2020-S and R	2452	30-L	3/32x 5/8x5
2403	21, 31-R, S-21, S-31-R	2453	31-L	1/8 x 3/4x5
2404	22, 32-R, S-22, S-32-R	2454	32-L	1/8 x 7/8x6
2405	23, 33-R, S-23, S-33-R	2455	33-L	3/16x1 x6-1/2
2406	24, 34-R	2456	34-L	3/16x1-1/8x7
2407	25, 35-R	2457	35-L	1/4 x1-1/8x7

FOR STRAIGHT, R and L HAND SIDE-TOOL HOLDERS



Straight and Right Hand		Left Hand		Cutter Size
No.	To Fit Holders	No.	Holder	
2621	19, 29-R	2511	29-L	1/8 x 1/2x4-1/2
2622	20, 30-R	2512	30-L	5/32x 5/8x5
2623	21, 31-R	2513	31-L	3/16x 3/4x6
2624	22, 32-R	2514	32-L	1/4 x 7/8x7
2625	23, 33-R	2515	33-L	5/16x1 x8
2626	24, 34-R	2516	34-L	3/8 x1-1/8x9

FOR BORING and SHAPER BARS



No.	To Fit Bar Nos.	For Use at Angle of	Cutter Size
*2321	0B, 0B-X, 08, 08-X	90°	3/16x3/16x1
2301	0B, 0B-X, 08, 08-X	45°	3/16x3/16x2
2323	09, 09-X, 0532	90°	1/4 x1/4 x1- 7/32
2302	09, 09-X	45°	1/4 x1/4 x2- 1/2
2325	010, 010-X, 0597	90°	5/16x5/16x1- 7/16
2303	010, 010-X	45°	5-1/16x5/16x2 1/2
2327	011, 011-X, 0598	90°	3/8 x3/8 x1-13/16
2304	011, 011-X	45°	3/8 x3/8 x3
2328	012, 012-X	90°	3/8 x3/8 x2- 1/16
2304	012, 012-X	45°	3/8 x3/8 x3
2329	013, 013-X	90°	7/16x7/16x2- 3/16
2305	013, 013-X	45°	7/16x7/16x3- 1/2
2331	014, 014-X	90°	1/2 x1/2 x2- 1/2
2306	014, 014-X	45°	1/2 x1/2 x4
2333	015, 015-X	90°	5/8 x5/8 x3
2307	015, 015-X	45°	5/8 x5/8 x4- 1/2

FOR THREADING TOOL HOLDERS



No.	Cutter Size	To Fit Holder Nos.
8101	1/4 x 1/4 x 2-1/2	S-50
8102	5/16 x 5/16 x 2-1/2	S-51
8103	3/8 x 3/8 x 3	S-52
8151	Formed	00-T, 50
8153	Formed	51
8155	Formed	52
8157	Formed	53

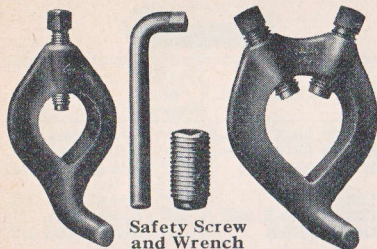
FOR PLANING TOOL HOLDERS



No.	Cutter Size	To Fit Holder Nos.
2351	1/4 x 3/8 x 2-1/2	40
2352	5/16 x 7/16 x 3	401
2353	3/8 x 1/2 x 3-1/2	41
2354	1/2 x 3/4 x 4-1/4	42
2355	5/8 x 7/8 x 5	43
2356	3/4 x 1 x 6	44
2357	7/8 x 1-1/8 x 7	45

* Also fits Shaper Bar No. 0530.

WILLIAMS' VULCAN® DROP-FORGED LATHE DOGS With Bent Tail



Safety Screw
and Wrench

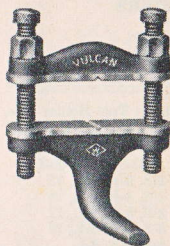
Furnished with Interchangeable Safety or Square Head Screws.

The Screws are of special steel, hardened and tempered. They are supplied in two types, Safety and Square Head, which are interchangeable in corresponding Dogs.

When ordering extra Screws, state whether Safety or Square Head type is wanted: if latter, specify diameter of screw.

Square Head Screws will be supplied, unless otherwise specified. Unless otherwise specified, a Wrench will be supplied for Dogs with Safety Screws at extra price.

WILLIAMS' VULCAN® DROP-FORGED CLAMP LATHE DOGS



These Lathe Dogs are heat-treated after forging to increase further their strength and reduce the liability of springing.

Screws are made of a special grade of steel and are hardened and tempered. The Nuts are case-hardened.

The Nuts furnish ready means of arrangement for the minimum projection of Screws beyond the body of Dog and thus lessen the danger to the operator when tool is in use.

No.	Capacity		Screws	
	Maximum Opening	Distance Between Screws	Diameter	Length Under Head
61	1-5/8	1-3/4	5/16	2-3/4
62	1-7/8	2-1/4	3/8	3-5/16
63	2-1/2	2-3/4	7/16	4-1/4
64	3-1/4	3-1/2	1/2	5-3/8

MILLING MACHINE DOGS

With Flat, Bent Tail



These are designed for taper work carried between centers on milling machines. The flat tail works in the head-slot without the backlash unavoidable in Dogs with taper tail. They serve also as a heavy pattern Dog.

The Screws are made of a special grade of steel and are hardened and tempered.

Number	Capacity	Screw	
		Diameter	Length Under Head
42	1/2	3/8	1-1/4
43	3/4	7/16	1-5/8
44	1	1/2	2
45	1-1/4	1/2	2-1/4
46	1-1/2	9/16	2-3/8
47	1-3/4	5/8	2-1/2
48	2	5/8	2-7/8

No.	Capacity	SCREWS			
		Square Head		Safety	
		Diam.	Length Under Hd.	Diam.	Extreme Length

WITH ONE SCREW

1	3/8	7/16	1	7/16	5/8
2	1/2	9/16	1-1/4	9/16	13/16
3	3/4	5/8	1-5/8	5/8	1-1/16
4	1	5/8	2	5/8	1-1/4
5	1-1/4	3/4	2-1/4	3/4	1-3/8
6	1-1/2	7/8	2-7/16	7/8	1-11/16
7	1-3/4	7/8	2-7/16	7/8	1-11/16
8	2	1	2-3/4	1	1-7/8
9	2-1/2	1-1/8	3	1-1/8	2
10	3	1-1/4	3-1/4	1-1/4	2-1/8
11	3-1/2	1-3/8	3-1/2	1-3/8	2-1/2
12	4	1-1/2	3-3/4	1-1/2	2-5/8
13	5	1-5/8	4-1/2	1-5/8	3-3/8

WITH TWO SCREWS

112	4	1-1/2	3-3/4	1-1/2	2-5/8
113	5	1-5/8	4-1/2	1-5/8	3-3/8
114	6	1-5/8	4-1/2	1-5/8	3-3/8



WILLIAMS' VULCAN® DROP-FORGED STRAP CLAMPS

These forgings are made from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase their strength and stiffness.

UNIVERSAL ADJUSTABLE PATTERN



Designed for holding work in planers, boring mills, drill presses, milling machines, etc. Ideal for irregular shapes and varying sizes. Position of the saddle may be changed to maintain vertical, right angle positioning of the tie-bolt.

No.	Length	Width of Clamp	Adjustment	Max. "T" Slot Bolt, Size Inches
21	5-1/16	1-5/8	2-1/4	5/8
22	8	2-1/8	4	3/4
23	12	2-3/4	6-1/4	1

FINGER PATTERN DOUBLE END



No.	Length	Width	Thickness	Diam. Hole	Finger Diam. and Length
30	3	1- 1/2	5/8	11/16	1/2
35	3-1/2	1- 5/8	3/4	11/16	5/8
40	4	1-13/16	7/8	13/16	3/4

FINGER PATTERN SINGLE END



No.	Lgth.	Width	Thickness	Slot; Min. Dimensions		Finger Diam. and Length
				Length	Width	
44	4	1-5/8	3/4	1- 3/8	11/16	1/2
46	6	1-3/4	7/8	1-15/16	11/16	5/8
48	8	2-1/8	1-1/8	2- 9/16	13/16	3/4

PLAIN SLOT PATTERN



No.	Length	Width	Thickness	Slot; Min. Dim.	
				Length	Width
54	4	1-5/8	3/4	1- 3/8	11/16
56	6	1-3/4	7/8	2- 1/16	11/16
58	8	2-1/8	1-1/8	2-13/16	13/16
59	10	2-1/2	1-3/8	3-11/16	15/16

ADJUSTABLE STEP PATTERN



No.	Length	Width	Thickness	Slot; Min. Dim.	
				Length	Width
54A	4	1-5/8	3/4	1- 3/8	11/16
56A	6	1-3/4	7/8	2- 1/16	11/16
58A	8	2-1/8	1-1/8	2-13/16	13/16
59A	10	2-1/2	1-3/8	3-11/16	15/16

"U" PATTERN



No.	Length	Max. Width	Thickness	Slot; Min. Dimensions		Finger Diam. and Length
				Length	Width	
64	4-1/2	1-3/4	3/4	3-1/2	11/16	1/2
66	6-5/8	2	7/8	5-1/2	11/16	5/8
68	8-3/4	2-1/2	1-1/8	7-3/8	13/16	3/4
110	10	2-3/4	1-1/4	9	15/16	15/16
112	12	3-1/4	1-3/4	11	1-1/16	1-1/16

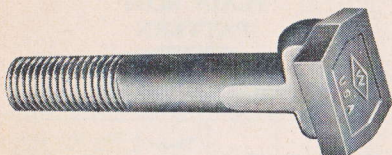
GOOSE NECK PATTERN



No.	Length	Width	Thickness	Slot; Min. Dimensions		Neck Offset
				Length	Width	
74	4	1-5/8	3/4	15/16	11/16	13/16
76	6	1-3/4	7/8	1-11/16	11/16	15/16
78	8	2-1/8	1-1/8	2- 7/16	13/16	1-1/8

WILLIAMS' SET-UP ACCESSORIES

T-SLOT BOLTS



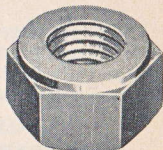
For setting-up work on planers, shapers, milling machines and other similar applications. Forged from a superior grade of steel to withstand severe machine shop use. Designed to fit T-Slots, threaded Unified Coarse, ready for use.

Lengths Under Head in Inches

3/8" T-Slot Size	1/2" T-Slot Size	5/8" T-Slot Size	3/4" T-Slot Size	7/8" T-Slot Size 3/4" Shank	1" T-Slot Size 7/8" Shank
Use 3HN Hex Nut 3W	Use 4HN Hex Nut 4W	Use 5HN Hex Nut 5W	Use 6HN Hex Nut 6W	Use 6HN Hex Nut 6W	Use 7HN Hex Nut 7W
Washer	Washer	Washer	Washer	Washer	Washer
1	1-1/4				
1-1/4	1-1/2				
1-3/4	1-3/4				
2	2	2			
2-1/4	2-1/4	2-1/4			
2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	
	2-3/4	2-3/4			
3	3	3	3	3	3
3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	
4	4	4	4	4	4
4-1/2	4-1/2	4-1/2	4-1/2	4-1/2	
5	5	5	5	5	5
5-1/2	5-1/2	5-1/2	5-1/2	5-1/2	
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10
	12	12	12	12	12
		14	14	14	14
		16	16	16	16
		18	18	18	18

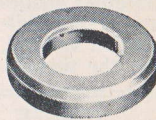
HEX NUTS FOR T-SLOT BOLTS

Specially designed for use with Williams T-Slot Bolts. Threaded Unified Coarse and case hardened.



No.	Bolt Diam., Inches	Threads Per Inch	Thick-ness, Inches	Across Flats, Inches
3 HN	3/8	16	7/16	11/16
4 HN	1/2	13	5/8	7/8
5 HN	5/8	11	3/4	1-1/16
6 HN	3/4	10	1-1/4	1-1/4
7 HN	7/8	9	1	1-7/16

FLAT WASHERS

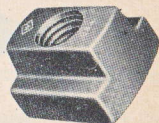


Extra thick to resist bending with beveled edges on one side.

No.	Bolt Diameter, Inches	Outside Diameter, Inches	Thickness, Inches
3W	3/8	7/8	1/8
4W	1/2	1	3/16
5W	5/8	1-1/4	1/4
6W	3/4	1-1/2	1/4
7W	7/8	1-3/4	1/4

T-SLOT NUTS

For setting-up work on planers, shapers, milling machines, etc., Threaded Unified Coarse.



No.	T-Slot Size	Stud Diam.	Threads Per Inch			
5TN	5/8	1/2	13	1-1/8	13/32	1-1/4
6TN	3/4	5/8	11	1-5/16	17/32	1-1/2
7TN	7/8	3/4	10	1-1/2	9/16	1-3/4
8TN	1	7/8	9	1-3/4	5/8	2
10TN	1-1/4	1	8	2	7/8	2-3/8

SET-UP WEDGES

For setting-up work on planers, shapers, milling machines, etc.



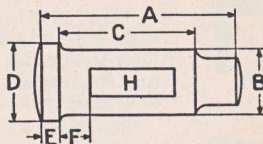
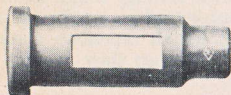
No.	Length	Width	Thick End
3WG	3	1	1/4
5WG	5	1	1/2
6WG	6	1-1/4	3/4



WILLIAMS' VULCAN® TOOL POST FITTINGS

TOOL POSTS

Unfinished — Openings Punched Out



Number	5	10	20	23	28	30	40	50	60
Length, A	2-15/16	4- 1/16	4-9/16	5	5- 3/16	5- 1/4	6-5/16	7- 3/8	8- 3/4
Body Diameter, B	1- 1/32	1- 1/4	1-5/8	1-7/16	1- 9/16	1-13/16	2-1/16	2- 1/4	2-31/32
Length, C	2	2- 7/8	3-1/4	3-1/2	3-11/16	3- 3/4	4-3/8	5	6
Base Diameter, D	1- 7/32	1- 5/8	2-1/8	1-7/8	2- 1/16	2- 5/16	2-5/8	2-15/16	3- 5/8
Thickness, E	5/16	1/4	7/16	5/16	5/16	1/2	9/16	5/8	3/4
Base to Opening, F	7/16	1/2	13/16	5/8	5/8	15/16	1-3/16	1- 3/8	1- 1/2
Opening Size, H	1- 5/16	1-15/16	1-7/8	2-1/2	2-11/16	2- 1/8	2-1/2	2- 7/8	3- 9/16
For Use With Wedge	x 7/16	x19/32	x11/16	x21/32	x11/16	x 3/4	x 7/8	x15/16	x 1
Ring	5	10	15 & 18	15	15 & 18	18 & 20	30 & 40	60	
	5	10	11	14	18	20	30 & 40	60	

TOOL POST WEDGES

For Changing Angles of Lathe Tools



Number	5	10	11	15	18	20	30	40	60	65
Length	2-13/32	3	3-3/8	3-3/8	3-7/8	3-7/8	4-3/8	4-7/8	5-1/4	5-5/16
Width—Top	13/32	9/16	1/2	5/8	11/16	11/16	3/4	13/16	15/16	7/8
Width—Extreme	1/2	21/32	19/32	23/32	3/4	13/16	7/8	15/16	1-3/32	1-1/32
Extreme Thickness	11/32	31/64	25/64	7/16	15/32	17/32	1/2	21/32	3/4	29/32
Radius	3	2-7/8	4-5/8	4-5/8	4-1/2	4-3/4	5-1/2	5-3/4	6	5
For Use with Post	5	10	20	20	30	30	40	40	50	
For Use with Ring	5	10	11	11	11 & 20	20	30	40	60	

TOOL POST RINGS

For Changing Angles of Lathe Tools



Number	5	10	11	14	18	20	30	40	60
Diameter, Outside	2-1/4	2-15/16	3	3-3/16	3-7/16	3-1/2	3-1/2	4	4-1/2
Diameter, Hole	1-1/16	1- 5/16	1-5/8	1-7/16	1-9/16	1-3/4	2	2	2-3/16
Thickness, Edge	3/8	7/16	7/16	5/8	11/16	9/16	3/4	3/4	3/4
Radius of Concave	3	2- 7/8	4-5/8	4-5/8	4-1/2	4-3/4	5-1/2	5-3/4	6
For Use with Post	5	10	20	23	28	30	40	40	50
For Use with Wedge	5	10	11 & 15	18 & 20	18	18 & 20	30	40	60

WILLIAMS' DROP-FORGED CLAMPS

VULCAN® HEAVY SERVICE "C" CLAMPS



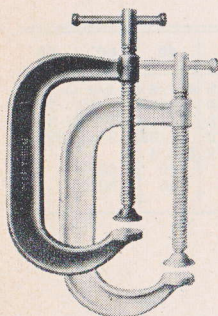
These are drop-forged from a strong, tough grade of carefully selected steel, and are subjected to a refining process, or heat-treatment, after forging, which increases their strength and reduces the liability of springing; they are the strongest "C" clamps on the market.

The Screws are made of a special grade of steel, and are hardened and tempered.

With long Screws, minimum capacity of all Clamps is 0.

No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Standard Screw	
	Maximum	Min. with Std. Screw		Length	Width	Diam.	Lgt. Under Head
0	3/4	0	3/4	2 1/4	2	5/16	1 1/2
1	1 1/4	0	1 1/8	3 1/4	2 3/4	3/8	2 1/4
1 1/2	1 3/4	0	1 1/2	4 1/4	3 5/8	1/2	3 1/8
2	2 1/4	7/8	1 3/4	5 1/2	4 1/2	5/8	2 7/8
3	3 1/4	1 5/16	2 3/8	7 1/4	5 3/4	3/4	3 3/4
4	4 1/2	2	2 3/4	8 7/8	6 1/2	7/8	4 1/2
5	5 1/2	2 1/2	3 1/8	10 3/8	7	7/8	5 3/8
6	6 1/2	3 1/16	3 3/8	12	7 7/8	1	5 7/8
8	8 1/2	4 1/4	3 3/4	14 3/8	8 1/2	1 1/8	7
10	10 1/2	6 3/8	4 1/8	16 7/8	9	1 1/8	7
12	12 1/2	7 5/8	4 1/2	19 3/8	9 3/4	1 1/4	8

VULCAN® DEEP THROAT "C" CLAMPS For Light Duty



Designed for use where clearance provided by a deep throat is required. Drop-forged from special steel and heat-treated.

The Screws are made from tough, wrought steel, heat-treated and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

Standard pattern for body-builders, woodworkers and kindred trades. All parts, except screws, are shot-blasted.

Spatter-Resisting for welding. Cadmium-plated to resist the adherence of welding spatter.

Standard Clamps will be furnished unless otherwise specified.

No.		Capacity		Depth of Throat from Center of Screw	Extreme Dimen. of Body		Screw	
		Max.	Min.		Length	Width	Diam.	Length Over All
402	402-S	2	0	2	4 7/8	3 3/4	1/2	4 7/8
403	403-S	3	0	2 3/8	6 1/8	4 1/8	1/2	6 1/8
404	404-S	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/2
406	406-S	6	0	3 5/8	10 1/4	6	5/8	10 1/2
408	408-S	8	2	4 1/2	12 3/4	7	3/4	11
410	410-S	10	3	5 3/8	15 1/4	8 1/8	3/4	12
412	412-S	12	4	5 3/4	18	9 3/8	7/8	13 1/4



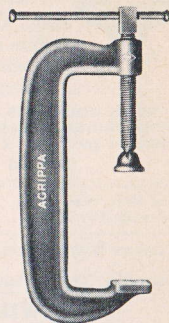
WILLIAMS' DROP-FORGED CLAMPS

AGRIPPA® GENERAL SERVICE "C" CLAMPS

Drop-forged from a strong, tough grade of carefully selected steel. They are also heat-treated, after forging, to increase their strength and reduce the liability of springing.

Screws are made of a special grade of steel, hardened and tempered. The swivels are drop-forged.

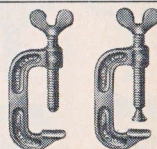
No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimension of Body		Screw	
	Max.	Min.		Length	Width	Diam.	Length under Head incl. Swivel
102	2	0	1-1/2	5-7/8	3-1/2	1/2	4
103	3	0	2	6-7/8	4-3/8	5/8	5-5/8
104	4	0	2-3/8	8-1/4	5-1/8	3/4	6-7/8
106	6	2	2-1/2	10-3/8	5-3/8	3/4	6-7/8
108	8	4	2-5/8	12-1/2	5-1/2	3/4	6-7/8
110	10	6	2-3/4	14-5/8	5-3/4	3/4	6-7/8
112	12	8	2-7/8	16-7/8	6	3/4	6-7/8
115	15	10	3-1/16	20-1/4	6-1/2	7/8	8-1/8
118	18	13	3-1/4	23-1/2	7	7/8	8-1/8



VULCAN®

TOOL-MAKERS' "C" CLAMPS

Swivel or Plain Screws, with wings, permit use of lever. Drop-forged, hardened and tempered. Screws are interchangeable.

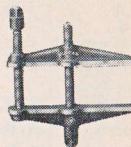


No.	Capacity		Depth of Throat	Extreme Dimensions		Screw	
	Max.	Min.		Length	Width	Diameter	Length
WITH PLAIN SCREW							
201	1	0	11/16	2-1/8	1-1/2	5/16	1-11/16
202	2	5/16	13/16	3-3/8	1-7/8	3/8	2- 7/16
203	3	11/16	15/16	4-1/2	2-1/8	3/8	3- 3/16
204	4-1/4	1-3/16	1-1/8	6-3/8	2-1/2	7/16	4- 1/8
WITH SWIVEL SCREW							
201	3/4	0	11/16	2-1/8	1-1/2	5/16	1-11/16
202	1-3/4	5/16	13/16	3-3/8	1-7/8	3/8	2- 7/16
203	2-3/4	11/16	15/16	4-1/2	2-1/8	3/8	3- 3/16
204	4	1-3/16	1-1/8	6-3/8	2-1/2	7/16	4- 1/8

VULCAN® MACHINISTS' CLAMPS

Drop-forged from strong, selected steel and heat-treated. The knurled portion of the hardened and tempered Screws permit rapid and easy adjustment.

When ordering extra Screws specify whether for *end* or *center*; lengths given are under-head dimensions.



No.	Capacity		Screws			
	Maximum Opening	Length Jaw from Screw	End		Center	
			Diameter	Length	Diameter	Length
301	1-1/4	1-3/4	5/16	2-1/8	5/16	2-5/8
302	2-1/4	2-1/4	3/8	3-1/4	3/8	3-15/16
303	3-1/4	2-3/4	7/16	4-5/8	7/16	5-1/4
304	4-1/4	3-1/4	1/2	5-3/4	1/2	6-1/2

WILLIAMS' DROP-FORGED THUMB NUTS



Type A

Furnished either Blank or Tapped, tumbled smooth. Nuts tapped Unified Class 2B threads in stock in all sizes. **Other threads to order.** Unless otherwise specified, orders for Tapped Nuts will be supplied with Unified Class 2B threads. Tapped Nuts have base faced at right angle to hole.



Type B

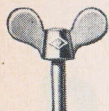
Special sizes and shapes and Tobin Bronze Nuts to order.

When tapping is ordered, Class 2B is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made. When ordering indicate pattern (A or B) by letter.

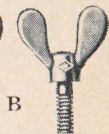
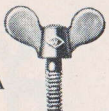
Tapped Thumb Nuts will be furnished, unless otherwise specified.

For Bolt; Size.....	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
Threads Per Inch.....	40	24	20	18	16	14	13	12	11	10
Extreme Width across Wings, Type A	$\frac{3}{4}$	$\frac{15}{16}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{11}{16}$	2	$2\frac{1}{4}$	$2\frac{3}{16}$	$2\frac{3}{4}$	$3\frac{1}{4}$
.....Type B	$\frac{25}{32}$	1	$1\frac{3}{8}$	$1\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{1}{8}$	$2\frac{3}{8}$	$2\frac{9}{16}$	3
Diameter, Top of Barrel.....	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{17}{32}$	$\frac{5}{8}$	$\frac{21}{32}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{15}{16}$

WILLIAMS' DROP-FORGED THUMB SCREWS



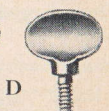
A



B



C



D

Drop-forged from a fine grade of steel that threads readily and tumbled smooth. Special sizes and shapes and Tobin Bronze Screws to order.

Lengths, longer than those listed, can be furnished special from available dies. Screws with special points can be supplied to order.

Screws with Unified Class 2A threads in stock in all sizes. **Other threading to order.** Unless otherwise specified, Threaded Screws will be furnished with Unified Class 2A threads.

When threading is ordered, Class 2A is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made.

When ordering indicate pattern by letter.

Threaded Thumb Screws will be furnished, unless otherwise specified.

Width of Head	Diameter of Screw and Threads per Inch						
	3/16 24	1/4 20	5/16 18	3/8 16	7/16 14	1/2 13	5/8 11
Type A	15/16	1-1/8	1-7/16	1-11/16	2	2-1/4	2-3/4
Type B	1	1-3/16	1-3/8	1- 5/8	.....	.....	.....
C and D	27/32	1	1-3/16	1- 3/8	1-9/16	1-3/4	.....

Std. Length Under Head	Types in Stock — Blank or Threaded						
1/2	A-B-C-D	A-B-C-D	A-B-C-D	A-B-C-D	.....	.....	.....
3/4	A-B-C-D	A-B-C-D	A-B-C-D	A-B-C-D	.....	.....	.....
1	A-B-C-D	A-B-C-D	A-B-C-D	A-B-C-D	A-C-D	A-C-D	A
1-1/4	A-B-C-D	A-B-C-D	A-B-C-D	A-B-C-D	A-C-D	A-C-D	.....
1-1/2	A-C-D	A-B-C-D	A-B-C-D	A-B-C-D	A-C-D	A-C-D	A
2	A-C-D	A-B-C-D	A-B-C-D	A-B-C-D	A-C-D	A-C-D	A
2-1/2	.....	A-C-D	A-C-D	A-C-D	A-C-D	A-C-D	A
3	.....	A-C-D	A-C-D	A-C-D	A-C	A-C-D	.....
3-1/2	.....	.....	C-D	A-C-D	C	.....	.....
4	.....	.....	C-D	A-C-D	.....	.....	.....

WILLIAMS' VULCAN® CRANK AND BALANCE HANDLES

Balance Handle



Unfinished are plain forgings without hole in hub.

Broached, available in Crank Handles only, have holes finished and hubs recessed or counter-bored in free end, but are otherwise plain forgings.

Crank Handle



Finished are broached, counter-bored, ground with polished grip, case-hardened all over, industrial gray finish.

Finished Handles will be furnished unless otherwise specified.

* Handle cone-shaped; see Crank Handle—illustration.

† Hub is a sphere; flattened on top and bottom; full size drawing on request.

No.	Length			Hub		Square Hole Size Broached		Ball Diam.
	C Hub to C Handle	Ex- treme	Handle above Arm	Diam.	Length	Std. in Stock	Max. on Special Order	
CRANK HANDLES								
00	1-3/4	2-5/8	2-3/8	1	1- 1/4	1/2	5/8	.....
0	2-1/4	3-1/8	2-1/2	1	1- 1/4	1/2	5/8	.....
1	3	4	2-3/4	1-1/4	1- 1/2	9/16	13/16	.....
2	3-1/2	4-1/2	2-7/8	1-1/16	1- 5/16	1/2	5/8	.....
4	4	5-1/8	3-1/8	1-1/4	1- 3/8	9/16	13/16	.....
6	5	6-1/8	3-1/8	1-1/4	1-13/16	5/8	13/16	.....
8	6	7-1/8	3-1/8	1-1/4	1-15/16	11/16	13/16	.....
10	7	8-1/4	3-3/8	1-3/8	2- 1/16	3/4	7/8	.....
12	8	9-3/8	3-5/8	1-9/16	2- 7/16	7/8	1	.....
14	9-1/8	10-1/2	3-3/4	1-1/2	2- 1/2	7/8	1	.....
16	10	11-1/2	4	1-3/4	3	1	1-1/8	.....

BALANCE HANDLES

512	1-1/4	3-5/16	1-15/16	7/8	3/4	7/16	1/2	7/8
516	1-5/8	4	2- 1/4	7/8	7/8	7/16	1/2	1-1/4
*520	2	5	2- 5/8	1	15/16	1/2	5/8	1-1/4
*522	2-1/4	5-1/2	2- 3/4	1-1/4	1	1/2	13/16	1-3/8
*525	2-1/2	6	2-13/16	1-1/4	1- 1/8	5/8	13/16	1-7/16
529	2-7/8	7	3- 5/16	1-1/4	1- 1/4	5/8	13/16	1-1/2
434	3-3/8	8	3- 7/16	†1-1/2	7/8	5/8	3/4	1-3/4
439	3-7/8	9	3- 1/2	†1-5/8	1- 1/16	5/8	3/4	1-3/4

WILLIAMS' VULCAN® MACHINE HANDLE FORGINGS

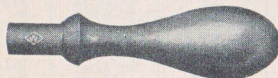
CONE
PATTERN



Unfinished
With Smooth,
Planished Surface

Number	11	13	15	16
Extreme Length.....	3-1/2	4-1/2	5-1/2	6
Std. Length, Shank.....	1/2	3/4	7/8	1-1/8
Diameter, Shank.....	3/8	7/16	1/2	9/16

BALL
PATTERN



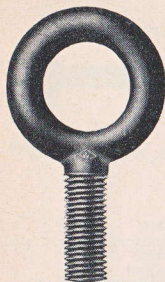
Unfinished
With Smooth,
Planished Surface

Number	00	0	1	2	3	4	5	6	7
Extreme Length.....	2	2-1/4	2-3/4	3-1/4	3-7/8	4-1/2	5-1/8	5-7/8	6-5/8
Std. Length, Shank...	1/2	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-1/2
Diameter, Shank....	5/16	11/32	13/32	15/32	15/32	17/32	19/32	11/16	3/4



WILLIAMS' VULCAN® EYE-BOLTS

Drop-Forged — Carbon Steel — Weldless

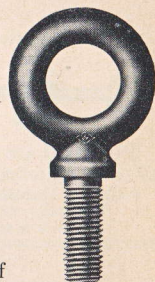


**PLAIN
PATTERN**

To insure proper service at listed capacity, Vulcan® Eye Bolts, after heat-treatment and before threading, are proof-tested to Military Standards on a standard tension machine to fifty per cent beyond their "Safe Working Load."

Unified Coarse (UNC.) Class 2A Threaded Eye Bolts of Standard length are in stock in all sizes; threaded prices are for these with UNC Class 2A Threads; longer lengths and special threads extra.

On standard length Threaded Eye Bolts of Shoulder Pattern the thread runs within 7/32" (No. 21) to 5/8" (No. 36) of shoulder, which is faced.



**SHOULDER
PATTERN**

When ordering, please state whether Threaded or Blank are desired; Threaded will be supplied, unless otherwise specified.

No.	Shank			Diameter Eye		Capacity Blanks; Tons of 2000 lbs.	
	Diameter; Nominal Size; Blank	Standard Lengths under Eye or Shoulder	Special Length Blank Available Up to	Inside	Outside	Safe Working Load	Breaking Strain, Approx.

PLAIN PATTERN

1	1/4	1	..	3/4	1- 3/16	.2	1.5
2	5/16	1-1/8	..	7/8	1- 7/16	.4	2.
3	3/8	1-1/4	12	1	1-21/32	.7	3.
4	7/16	1-3/8	12	1- 3/32	1-27/32	1.	4.
5	1/2	1-1/2	12	1- 3/16	2- 1/16	1.3	5.
6	9/16	1-5/8	12	1- 9/32	2- 9/32	1.5	6.
7	5/8	1-3/4	12	1- 3/8	2- 1/2	2.	8.
8	3/4	2	12	1- 1/2	2-13/16	3.	12.
9	7/8	2-1/4	12	1-11/16	3- 1/4	3.5	16.
10	1	2-1/2	12	1-13/16	3- 9/16	4.	20.
11	1-1/8	2-3/4	12	2	4	5.	23.
12	1-1/4	3	12	2- 3/16	4- 7/16	7.5	33.
14	1-1/2	3-1/2	18	2- 1/2	5- 3/16	9.	42.
15	1-3/4	3-3/4	18	2- 7/8	6- 1/16	11.	53.
16	2	4	18	3- 1/4	6- 7/8	13.	68.
17	2-1/2	5	12	4	8- 9/16	16.	85.

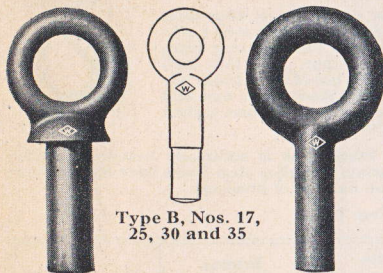
SHOULDER PATTERN

21	1/4	1	12	3/4	1- 3/16	.2	1.5
22	5/16	1-1/8	12	7/8	1- 7/16	.4	2.
23	3/8	1-1/4	12	1	1-21/32	.7	3.
24	7/16	1-3/8	12	1- 3/32	1-27/32	1.	4.
25	1/2	1-1/2	12	1- 3/16	2- 1/16	1.3	5.
26	9/16	1-5/8	12	1- 9/32	2- 9/32	1.5	6.
27	5/8	1-3/4	12	1- 3/8	2- 1/2	2.	8.
28	3/4	2	12	1- 1/2	2-13/16	3.	12.
29	7/8	2-1/4	12	1-11/16	3- 1/4	3.5	16.
30	1	2-1/2	18	1-13/16	3- 9/16	4.	20.
31	1-1/8	2-3/4	18	2	4	5.	23.
32	1-1/4	3	18	2- 3/16	4- 7/16	7.5	33.
34	1-1/2	3-1/2	18	2- 1/2	5- 3/16	9.	42.
35	1-3/4	3-3/4	18	2- 7/8	6- 1/16	11.	53.
36	2	4	18	3- 1/4	6- 7/8	13.	68.

WILLIAMS'

MISCELLANEOUS EYE BOLTS

Drop-Forged — Carbon Steel — Weldless



Type A

Type B

Type B, Nos. 17,
25, 30 and 35

† Shanks of B-17, 25, 30 and 35 are 7/16, 1/2, 9/16 and 5/8" in diameter for 3/4, 1, 1, and 1-1/8" from end respectively, as illustrated.

No.	Shank			Diameter Eye	
	Diam.	Length	Special Length Blank Available Up to	Inside	Outside

TYPE A—BLANK

1	1/4	3/4	3	3/8	3/4
10	3/8	3	...	3/4	1-3/8
12	3/8	3	...	3/8	1
11	7/16	2-3/16	...	1-7/32	2-7/32
13	7/16	2-3/4	...	5/8	1-3/8
14	15/32	1-5/8	...	1/2	1-1/4
15	1/2	2	...	9/16	1-1/4
16	1/2	3/4	...	1-3/8	2-3/8
17	1/2	4	...	1	1-3/4
20	9/16	2	...	5/8	1-1/2
25	5/8	1-3/4	...	7/8	1-5/8
26	5/8	1-3/4	4-1/2	1-1/8	2
40	13/16	3-1/4	...	3/4	2-1/8
55	1	1-5/16	...	7/8	2-3/8
58	1-1/16	4-1/8	...	1-1/8	2-7/8

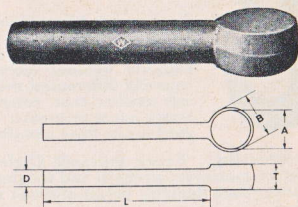
TYPE B—BLANK

1	1/4	1/2	...	3/8	3/4
4	5/16	3	...	5/16	15/16
5	3/8	6	...	1/2	1-1/8
10	7/16	1-1/8	...	1	1-3/4
15	1/2	1-1/2	4-1/2	13/16	1-13/16
16	1/2	3-1/4	...	7/16	1-7/16
17	11/16	1-3/4	...	1/2	1-1/8
25	5/8	2-3/8	...	1/2	1-1/4
26	5/8	2-3/4	...	11/16	1-11/16
27	5/8	3/4	...	1-1/2	2-1/2
30	11/16	2-1/2	...	9/16	1-7/16
35	3/4	2-3/4	...	5/8	1-5/8
45	7/8	4-1/8	...	1-1/8	2-3/8
50	15/16	5	...	1-1/8	2-3/8
55	1	2-3/4	...	3/4	2

WILLIAMS'

DROP-FORGED ROD ENDS

Unfinished



Drop-forged from mild steel which welds easily. Dimensions show nominal unfinished forging sizes and are subject to slight variations.

No.	Shank			Head		
	Diam.	Standard Length under Head	Special Length Available Up to	Diameter		Thick-ness
				A	B	T
0B	3/16	4-13/16	...	3/8	7/16	1/4
1C	1/4	5	9	3/8	11/16	1/4
1D	1/4	2-3/8	9	3/8	1/2	1/4
2A	5/16	3-3/4	9	3/4	5/8	7/16
2B	5/16	3-1/8	...	3/4	5/8	5/16
2C	5/16	5-3/4	...	3/4	13/16	3/8
2D	5/16	1-1/4	...	11/16	5/8	3/8
3A	3/8	2	9	1	5/8	3/8
3C	3/8	3-1/2	9	13/16	5/8	3/8
3E	3/8	3-1/8	...	3/8	5/8	5/8
3F	3/8	1-1/8	...	3/4	5/8	3/8
3G	3/8	1-7/16	...	3/8	45/64	3/8
3H	3/8	1-5/8	...	3/4	13/16	3/8
3J	3/8	3-1/16	...	3/4	31/32	3/8
4B	7/16	4-1/2	9	15/16	1 1/2	5/8
5A	1/2	4-3/8	15	1	1 1/4	1/2
5C	1/2	3-1/16	...	7/8	61/64	7/16
5D	1/2	2-7/8	12	3/4	1 1/8	13/16
5E	1/2	2-1/8	12	1 1/16	1 1/8	9/16
5F	1/2	2-1/16	...	1 1/16	59/64	11/32
7A	5/8	2-3/8	18	1 1/8	1 1/4	15/32
7B	5/8	4-7/8	18	1 1/4	1 1/2	19/32
7D	5/8	7-1/2	18	1 1/2	1 3/4	21/32
7E	5/8	5-7/8	9	1 1/8	1 1/2	1-1/16
7F	5/8	4-1/2	18	1 1/8	1 1/4	11/16
7G	5/8	2-5/16	...	1 1/16	1 1/8	7/16
9A	3/4	3-7/8	9	1 3/4	1 7/8	5/8
9B	3/4	4	15	1 1/2	1 5/8	13/16
9C	3/4	4-3/8	20	1 1/8	1 5/8	3/4
11A	7/8	3-1/2	15	1 1/2	1 5/8	1-1/16
11B	7/8	4	18	2	2 1/8	15/16
13B	1	3-1/2	9	1 5/8	1 7/8	1-1/2
13C	1	3-1/2	18	1 11/16	1 7/8	1-1/8
14A	1-1/16	5-3/4	18	2 1/16	2 1/8	1-1/8
15B	1-1/8	6	18	2 1/4	2 1/2	1-1/4
17A	1-1/4	6	24	2 5/16	2 1/2	1-1/2



WILLIAMS' VULCAN® DROP-FORGED HOIST HOOKS

REGULAR AND SAFETY EYE PATTERN

CARBON OR ALLOY STEEL



Carbon or Alloy Steel. Williams' new series of alloy steel hooks offer 25% greater load capacities over carbon steel hooks of the same size. This is an advantage to those desiring extra capacity without increasing size or weight. The 25% load capacity differential will also permit the use of alloy hooks one size smaller than corresponding carbon steel hooks and still retain equal or greater capacity. Size for size Williams carbon steel hooks have identical physical dimensions.



Heat-Treating. Every Vulcan® Carbon or Alloy Steel Hook is accurately heat-treated after forging for maximum strength and toughness. Both carbon and alloy steel hooks have high impact-resistance. High ductility permits spread with minimum liability of breakage.

(Continued on Page 97)

Regular Pattern		Safety Pattern		Capacity, Tons of 2000 lbs.				Extreme Dimensions		Throat Opening	Inside Eye Diam.
Carbon Steel No.	Alloy Steel No.	Carbon Steel No.	Alloy Steel No.	Safe Working Load		Average Load at Elastic Limit	Approx. Load to Straighten Out	Length	Width		
				F.S.=4	F.S.=5						
22	....	22-S	....	.8	.66	2.2	3.3	4-13/32	3	7/8	3/4
..	22-A	....	22-AS	1.0	.8	2.7	4.0				
23	....	23-S	....	1.0	.8	2.6	4.0	4-29/32	3- 3/16	31/32	7/8
..	23-A	....	23-AS	1.25	.95	3.25	4.8				
24	....	24-S	....	1.1	.9	2.9	4.5	5-15/32	3- 9/16	1- 1/32	1
..	24-A	....	24-AS	1.4	1.1	3.7	5.4				
25	....	25-S	....	1.8	1.4	4.5	7.0	6- 7/32	4	1- 1/8	1-1/8
..	25-A	....	25-AS	2.1	1.7	5.7	8.4				
26	....	26-S	....	2.75	2.2	7.1	11.0	6-29/32	4- 9/16	1- 7/32	1-1/4
..	26-A	....	26-AS	3.3	2.6	8.9	13.2				
27	....	27-S	....	3.1	2.5	8.1	12.5	7- 3/4	5- 1/16	1- 5/16	1-3/8
..	27-A	....	27-AS	3.75	3.0	10.0	15.0				
28	....	28-S	....	3.75	3.0	9.7	15.0	8-11/16	5- 7/8	1- 5/8	1-1/2
..	28-A	....	28-AS	4.5	3.6	12.2	18.0				
29	....	29-S	....	5.0	4.0	13.0	20.0	9- 5/8	6- 1/2	1- 3/4	1-5/8
..	29-A	....	29-AS	6.0	4.8	16.3	24.0				
30	....	30-S	....	5.25	4.2	13.6	21.0	10-17/32	7- 3/16	1- 7/8	1-3/4
..	30-A	....	30-AS	6.3	5.0	17.1	25.2				
31	....	31-S	....	5.5	4.4	14.3	22.0	11-23/32	7-11/16	2- 1/16	2
..	31-A	....	31-AS	6.6	5.3	17.9	26.4				
32	....	32-S	....	8.75	7.0	22.7	35.0	13- 3/32	8- 9/16	2- 5/16	2-3/8
..	32-A	....	32-AS	10.0	8.0	28.6	40.0				
33	....	33-S	....	11.25	9.0	28.3	45.0	14-25/32	9- 9/16	2-25/32	2-3/4
..	33-A	....	33-AS	13.5	10.8	36.5	54.0				
34	....	34-S	....	12.5	10.0	32.5	50.0	16-29/32	11- 7/16	3- 5/32	3-1/8
..	34-A	....	34-AS	15.0	12.0	40.6	60.0				
35	....	35-S	....	20.0	16.0	55.0	80.0	19-15/16	13- 7/8	3- 3/4	3-1/2
..	35-A	....	35-AS	23.75	19.0	65.0	95.0				
36	....	36-S	....	25.0	20.0	65.0	100.0	22-15/16	15- 5/8	4- 3/16	4
..	36-A	....	36-AS	30.0	24.0	81.25	120.0				



WILLIAMS' VULCAN® DROP-FORGED HOIST HOOKS REGULAR AND SAFETY SHANK PATTERN CARBON OR ALLOY STEEL



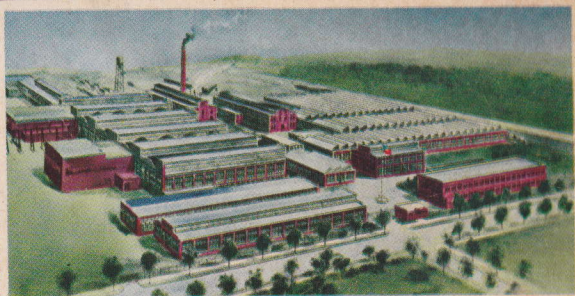
(Continued from Page 96)

Proof-Testing. To insure proper service at listed capacities Vulcan® Hoist Hooks are proof-tested after heat-treatment to Military Standards on a standard tension machine to fifty per cent beyond their safe working loads.

Safety Pattern. Rugged latches have powerful, non-corrosive snap springs which offer positive action. Loads cannot be jarred from the hook. Latches are sufficiently large to allow operator ample gripping area so that fingers will not be exposed to the load-carrying line.

† Shanks can be made longer at an additional charge per extra inch or fraction thereof.
Hook shanks are not machined. All hook shanks are 1/16" to 3/16" larger than listed diameter, depending on size, to allow for machining.

Regular Pattern		Safety Pattern		Capacity, Tons of 2000 lbs.				Extreme Dimensions		Throat Opening	Shank Dimensions	
Carbon Steel No.	Alloy Steel No.	Carbon Steel No.	Alloy Steel No.	Safe Working Load F.S.=4	Average Load at Elastic Limit F.S.=5	Approx. Load to Straighten Out		Length	Width		Diam.	Lgth.
2	...	2-S	...	.8	.66	2.2	3.3	5- 1/32	3	7/8	1/2	2
...	2-A	...	2-AS	1.0	.8	2.7	4.0					
3	...	3-S	...	1.0	.8	2.6	4.0	5-17/32	3- 3/16	31/32	9/16	2-1/4
...	3-A	...	3-AS	1.25	.95	3.25	4.8					
4	...	4-S	...	1.1	.9	2.9	4.5	6- 1/8	3- 9/16	1- 1/32	5/8	2-1/2
...	4-A	...	4-AS	1.4	1.1	3.7	5.4					
5	...	5-S	...	1.8	1.4	4.5	7.0	6-27/32	4	1- 1/8	3/4	2-3/4
...	5-A	...	5-AS	2.1	1.7	5.7	8.4					
6	...	6-S	...	2.75	2.2	7.1	11.0	7- 5/8	4- 9/16	1- 7/32	7/8	3
...	6-A	...	6-AS	3.3	2.6	8.9	13.2					
7	...	7-S	...	3.1	2.5	8.1	12.5	8- 3/8	5- 1/16	1- 5/16	1	3-1/4
...	7-A	...	7-AS	3.75	3.0	10.0	15.0					
8	...	8-S	...	3.75	3.0	9.7	15.0	9- 5/16	5- 7/8	1- 5/8	1-1/8	3-1/2
...	8-A	...	8-AS	4.5	3.6	12.2	18.0					
9	...	9-S	...	5.0	4.0	13.0	20.0	10- 1/4	6- 1/2	1- 3/4	1-1/4	3-3/4
...	9-A	...	9-AS	6.0	4.8	16.3	24.0					
10	...	10-S	...	5.25	4.2	13.6	21.0	11- 5/32	7- 3/16	1- 7/8	1-3/8	4
...	10-A	...	10-AS	6.3	5.0	17.1	25.2					
11	...	11-S	...	5.5	4.4	14.3	22.0	12- 3/32	7-11/16	2- 1/16	1-1/2	4-1/4
...	11-A	...	11-AS	6.6	5.3	17.9	26.4					
12	...	12-S	...	8.75	7.0	22.7	35.0	13- 5/32	8- 9/16	2- 5/16	1-5/8	4-1/2
...	12-A	...	12-AS	10.0	8.0	28.6	40.0					
13	...	13-S	...	11.25	9.0	28.3	45.0	14-17/32	9- 9/16	2-25/32	1-3/4	†5
...	13-A	...	13-AS	13.5	10.8	36.5	54.0					
14	...	14-S	...	12.5	10.0	32.5	50.0	16- 9/32	11- 7/16	3- 5/32	2	†5-1/2
...	14-A	...	14-AS	15.0	12.0	40.6	60.0					
15	...	15-S	...	20.0	16.0	55.0	80.0	18-11/16	13- 7/8	3- 3/4	2-3/8	†6
...	15-A	...	15-AS	23.75	19.0	65.0	95.0					
16	...	16-S	...	25.0	20.0	65.0	100.0	21-11/16	15- 5/8	4- 3/16	2-3/4	†7
...	16-A	...	16-AS	30.0	24.0	81.25	120.0					
17	58.75	47.0	153.0	235.0	30-13/16	19	5- 1/4	4-1/16	12or24
...	17-A	68.75	55.0	178.0	275.0					



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